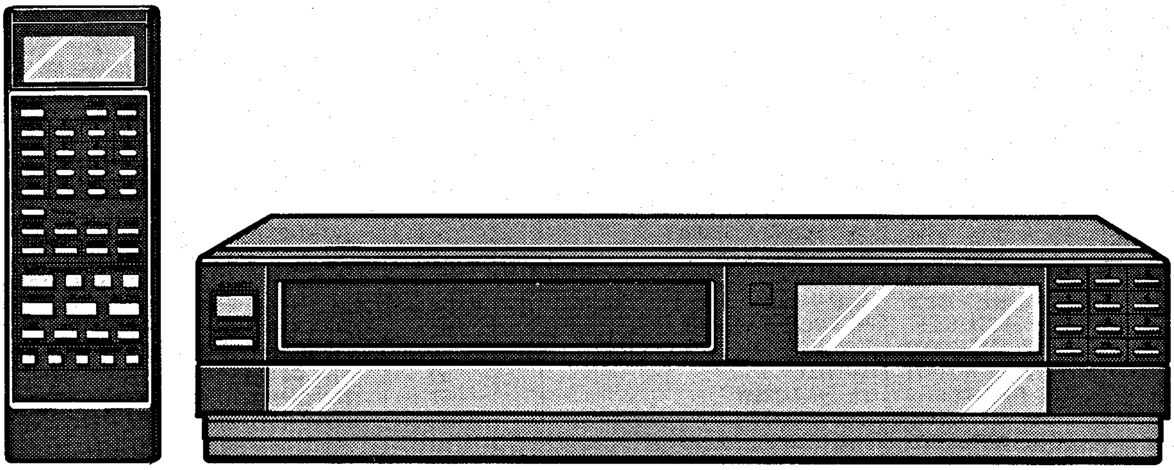
SANYO

Parts List & Circuit Diagrams

Colour Video Cassette Recorder

VHR-D700EX (Europe)
VHR-D700G
(West Germany)



DIGITAL

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Please see other materials with Reference No. given in table below.

Materials	Model No.	Reference No.
Service Manual	VHR-D700 Series	WM-21752
Mechanism Manual	VHR-3300, 3500 Series	WM-19932
Training Manual	VHR-D700 Series	WM-21753
	VHR-D500, D700 Series	WM-21356

PRODUCT SAFETY NOTICE

The components designated by a symbol (⚠) in this schematic diagram designates components whose value are of special significance to product safety. Should any component designated by a symbol need to be replaced, use only the part designated in the Parts List. Do not deviate from the resistance, wattage and voltage ratings shown.

NOTE: Parts order must contain Model Number, Part Number and Description.

BP2DHF/EX, G
14310934, 29

REFERENCE NO. WM-21615

ACCESSORIES

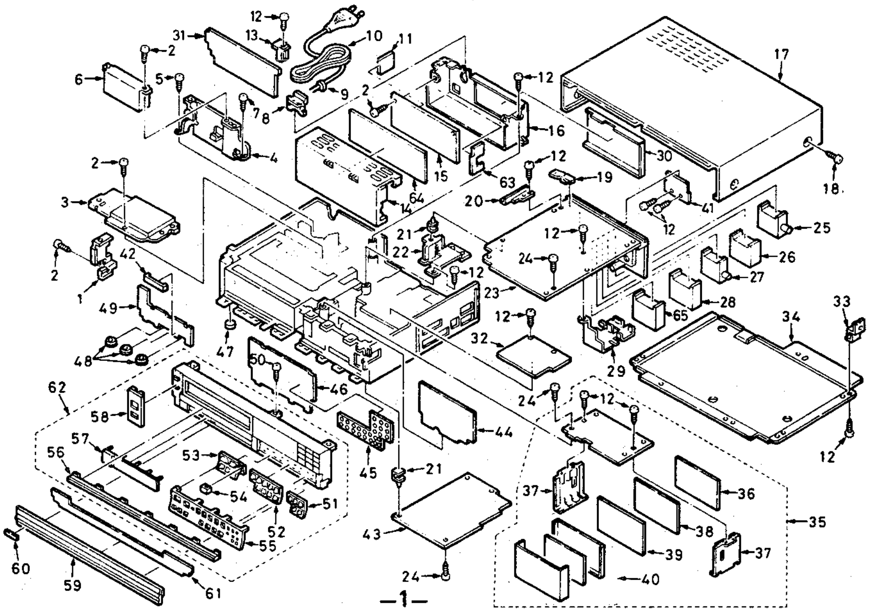
Ref No.	Part No.	Description
	143-6-410T-05600	INSTRUCTION MANUAL
	143-9-4100-68920	REMOTE CONTROL UNIT
	143-6-451T-18000	GUARANTEE CARD
	143-6-415T-03100	NOTICE
	4-243V-40600	ANTENNA OUTPUT CABLE

PACKING MATERIALS

Ref No.	Part No.	Description
	143-6-132T-86407	INNER CARTON(VHR-D700EX)
or	143-6-132T-86404	INNER CARTON(VHR-D700G)
	143-6-251T-17600	INDIVIDUAL POLY.COVER
	143-6-144T-20300	PAD,FRONT
	143-6-144T-20400	PAD,REAR

CABINET & CHASSIS PARTS

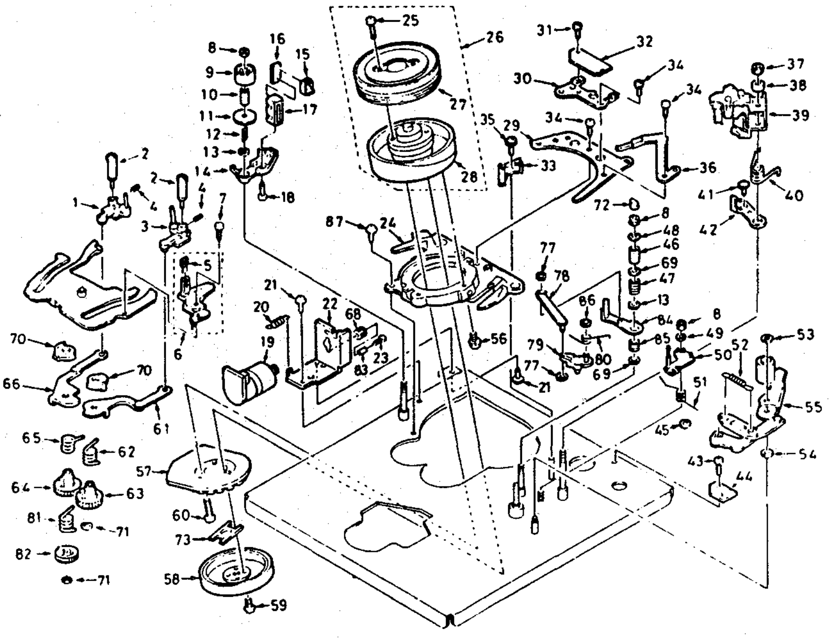
Ref No.	Part No.	Description
1	143-2-351T-80100	BRACKET,SHIELD PLATE
2	411 021 6405	SCR S-TPG BIN 3X8
3	143-2-322T-85800	SHIELD PLATE
4	143-2-351T-79700	BRACKET,VP-1 BOARD
5	411 045 6702	SCR PAN+SW 3X8
6	143-0-233V-43802	VP-1 BOARD ASSEMBLY
7	411 045 4807	SCR PAN+SW 3X4
8	143-2-210T-09900	BRACKET
9	143-2-464T-16400	FIXER,POWER CORD
or	143-2-464T-02700	FIXER,POWER CORD
10	⚠ 143-0-236V-67530	POWER CORD
11	143-0-233V-63351	PW-2 BOARD ASSEMBLY
12	411 021 4005	SCR S-TPG BIN 3X12
13	143-2-377T-15700	BRACKET,AD-1 BOARD
14	143-2-322T-99500	SHIELD PLATE
15	143-0-233V-63251	PW-1 BOARD ASSEMBLY
16	143-2-322T-99400	SHIELD PLATE
17	143-2-111T-11400	CABINET
18	412 024 7604	SPECIAL SCREW
19	143-2-853T-18800	SPRING PLATE
20	143-2-465T-13000	STOPPER(INCLUDE,VD-1)
21	143-2-251T-02200	HINGE
22	143-2-210T-14000	BRACKET
23	143-0-233V-62001	VD-1 BOARD ASSEMBLY
24	411 021 4203	SCR S-TPG BIN 3X12
25	143-9-4300-84300	RF CONVERTER
or	143-9-4300-84400	RF CONVERTER
26	143-0-233V-48100	TN-1 BOARD ASSEMBLY
27	4-115V-25600	TUNER
28	143-0-233V-49221	TN-2 BOARD ASSEMBLY
29	143-2-359T-03210	BRACKET TUNER(INCLUDE VD-1)
30	143-2-322T-99600	SHIELD PLATE
31	143-0-233V-65650	AD-1 BOARD ASSEMBLY
32	143-0-233V-66600	AD-2 BOARD ASSEMBLY
33	143-2-310T-08500	BRACKET
34	143-2-125T-09900	BOTTOM PLATE
35	143-0-233V-63651	DM-1 BOARD ASSEMBLY
36	143-0-233V-63700	DM-2 BOARD ASSEMBLY
37	143-2-377T-22800	BRACKET P C BOARD
38	143-0-233V-63800	DM-3 BOARD ASSEMBLY
39	143-0-233V-63950	DM-4 BOARD ASSEMBLY
40	143-0-233V-65800	DM-5 BOARD ASSEMBLY
41	143-0-233V-65700	TB-1 BOARD ASSEMBLY
42	143-2-241T-04400	VEIL
43	143-0-233V-64422	SY-1 BOARD ASSEMBLY
44	143-0-233V-61923	TM-1 BOARD ASSEMBLY(VHR-D700EX)
or	143-0-233V-61900	TM-1 BOARD ASSEMBLY(VHR-D700G)
45	143-2-161T-82100	PUSH BUTTON(INCLUDE TM-4)
46	143-0-233V-61823	TM-4 BOARD ASSEMBLY
47	143-2-174T-02402	STAND
48	143-2-163T-08000	ROTARY KNOB
49	143-0-233V-51403	TM-5 BOARD ASSEMBLY
50	411 020 9100	SCR S-TPG BRZ+FLG 3X12
51	143-2-161T-81900	PUSH BUTTON,TUNING
52	143-2-161T-81800	PUSH BUTTON,TIMER
53	143-2-161T-81710	PUSH BUTTON,OPERATION
54	143-2-161T-82000	PUSH BUTTON,REC
55	143-2-143T-84751	MARKING PLATE
56	143-2-152T-05251	SASH
57	143-2-143T-87050	MARKING PLATE
58	143-2-153T-23101	ESCUTCHEON
59	143-2-133T-28651	TIMER COVER(VHR-D700EX)
or	143-2-133T-28650	TIMER COVER(VHR-D700G)
60	143-2-142T-06600	BADGE,COVER
61	143-2-245T-00201	BACK PLATE,COVER
62	143-9-122T-27304	FRONT PANEL ASSEMBLY
63	143-2-327T-15401	INSULATOR
64	143-2-327T-15301	INSULATOR
65	143-0-233V-65500	TN-3 BOARD ASSEMBLY



MECHANISM PARTS 2

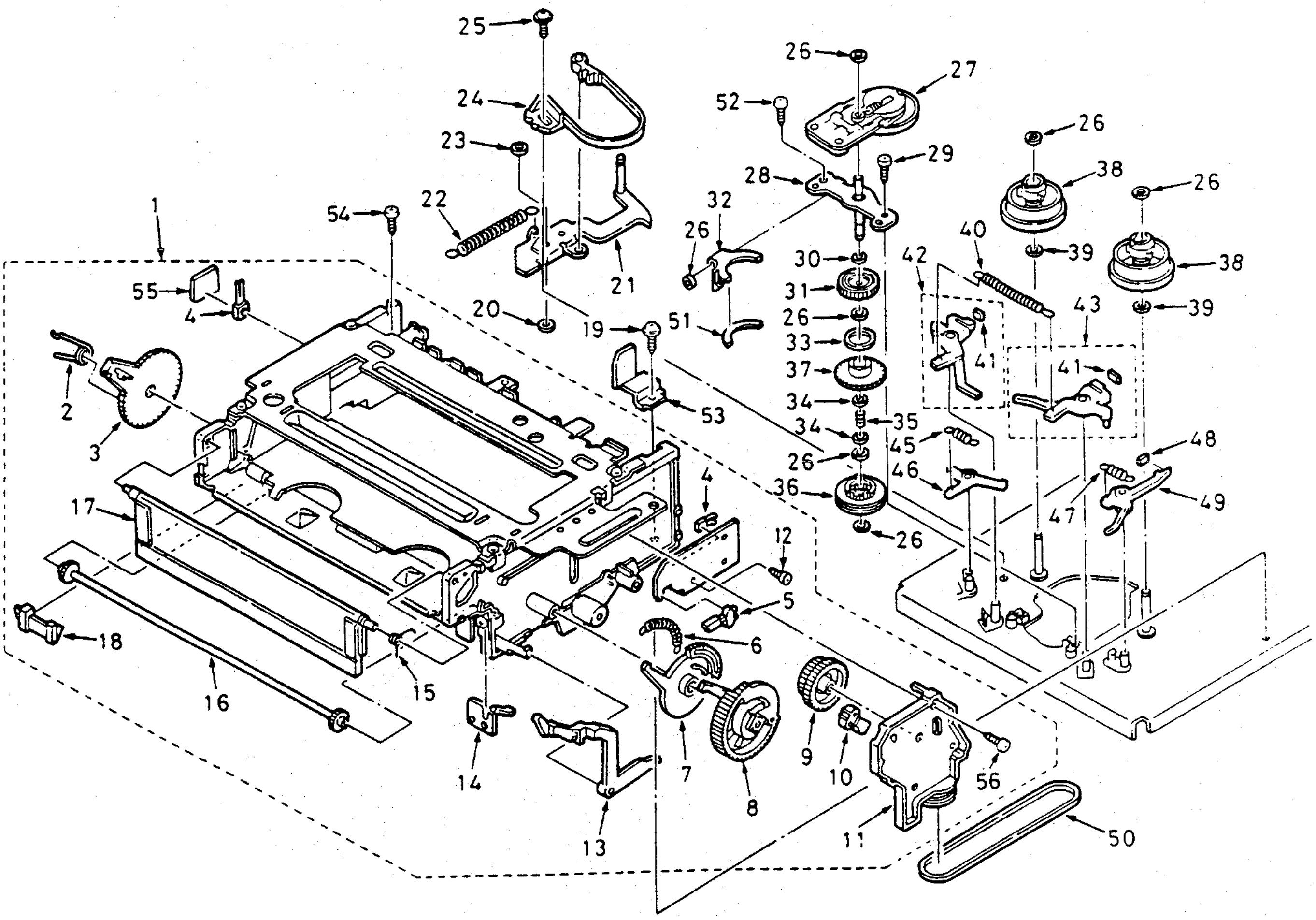
Ref No.	Part No.	Description
1	143-0-822T-03021	BRACKET TAPE GUIDE ASSY
2	143-0-821T-14400	TAPE GUIDE ASSY
or	143-0-821T-14500	TAPE GUIDE ASSY
3	143-0-822T-03121	BRACKET TAPE GUIDE ASSY
4	411 063 0706	SCR SET HEX-SCT 2X2
5	407 094 2000	LED LN59-SAN
6	143-0-351T-79201	BRACKET MTG ASSY
7	412 021 1209	SPECIAL SCREW
8	412 015 8306	SPECIAL NUT
9	143-2-662T-15400	ROLLER
10	143-2-681T-17501	SLEEVE
or	143-2-681T-17500	SLEEVE
11	412 023 2105	WASHER F 3X18X2
12	143-2-851T-91300	SPRING COIL
13	412 024 8502	SPECIAL WASHER
14	143-2-741T-63700	LEVER
15	4-235V-46502	SOCKET
16	4-233V-26300	P C BOARD
17	4-242V-24700	MAGNETIC HEAD
18	411 002 4901	SCR PAN 2X4
19	4-527V-03010	COMMUTATE MOTOR
20	143-2-851T-89200	SPRING COIL
21	411 047 6809	SCR PAN+FLG 3X4
or	411 047 8100	SCR PAN+FLG 3X8
22	143-2-378T-02901	BRACKET MOTOR
23	411 047 7509	SCR PAN+FLG 3X6
24	143-2-776T-02500	BRACKET CYLINDER
or	143-2-776T-02520	BRACKET CYLINDER
25	411 037 6208	SCR PAN+W 3X8
26	143-0-771T-14120	CYLINDER ROTARY HEAD ASSY
27	143-0-771T-14100	CYLINDER ROTARY HEAD ASSY
28	143-0-771T-12900	CYLINDER ROTARY HEAD ASSY
29	143-2-351T-77500	BRACKET MTG
30	143-2-377T-21700	BRACKET P C BOARD
31	411 003 8809	SCR PAN+SW 2.6X6
32	143-0-233V-48001	MC30 ASSY
33	143-2-351T-80000	BRACKET MTG
or	143-2-351T-80001	BRACKET MTG
34	411 003 8908	SCR PAN+SW 3X6
35	411 020 9902	SCR S-TPG BRZ+FLG 3X8
or	411 020 8905	SCR S-TPG BRZ+FLG 3X10
36	143-0-324T-00925	EARTH PLATE ASSY
37	412 015 8207	SPECIAL NUT
38	143-2-352T-22800	SPACER
39	143-9-242V-27500	MAGNETIC HEAD ASSY
40	143-2-851T-89500	SPRING COIL
41	411 036 5301	SCR PAN+SW+W 3X6

Ref No.	Part No.	Description
42	143-2-375T-11000	BRACKET HEAD
43	411 046 9702	SCR PAN+SW+W 3X6
44	4-221V-18900	RESISTOR
45	412 021 4903	SPECIAL WASHER
46	143-2-821T-14100	TAPE GUIDE
47	143-2-851T-91300	SPRING COIL
48	412 023 1900	WASHER F 3X6.5X0.5
49	412 015 8504	SPECIAL WASHER
50	143-0-741T-63300	LEVER ASSY
51	143-2-851T-87900	SPRING COIL
52	143-2-851T-87800	SPRING COIL
53	412 021 5207	SPECIAL WASHER
54	412 012 9108	SPECIAL WASHER
55	143-0-545T-02830	LEVER PINCH ROLLER ASSY
56	411 003 8908	SCR PAN+SW 3X6
57	4-264V-17400	MAGNETIC COIL
58	143-2-774T-03110	ROTOR
59	411 044 9001	SCR PAN+SW 2.3X6
60	411 044 8301	SCR PAN+SW 2.3X10
61	143-0-741T-64122	LEVER ASSY
62	143-2-851T-89000	SPRING COIL
63	143-2-581T-15200	GEAR
64	143-2-581T-16400	GEAR
65	143-2-851T-90700	SPRING COIL
66	143-0-741T-64222	LEVER ASSY
68	143-2-445T-21300	RUBBER CUSHION
69	412 021 7102	SPECIAL WASHER
or	412 021 8901	SPECIAL WASHER
70	143-2-352T-23500	SPACER
71	411 000 9908	RING E 3
72	143-2-681T-21100	SLEEVE
73	143-2-352T-23300	SPACER
77	412 015 9600	SPECIAL WASHER
78	143-0-741T-66000	LEVER ASSY
79	143-0-741T-66100	LEVER ASSY
80	143-2-851T-91200	SPRING COIL
81	143-2-851T-90800	SPRING COIL
82	143-2-581T-16500	GEAR
83	143-2-352T-24700	SPACER
84	143-0-741T-65900	LEVER ASSY
85	143-2-851T-92400	SPRING COIL
86	412 023 2006	WASHER F 3X9.5X0.5
87	411 047 5307	SCR PAN+FLG 3X10
or	411 047 8100	SCR PAN+FLG 3X8



MECHANISM PARTS 1

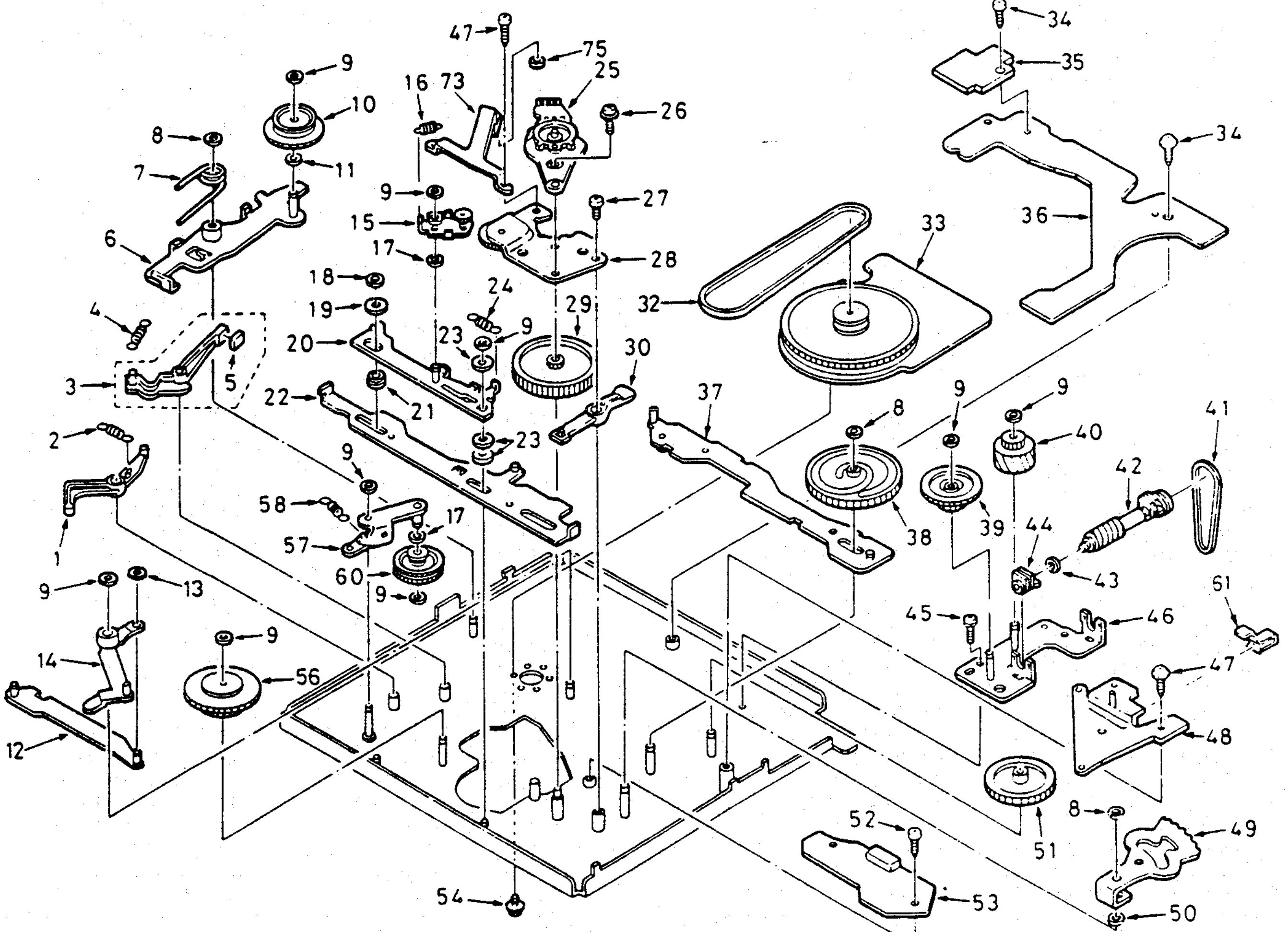
Ref No.	Part No.	Description
1	143-9-351T-80484	BRACKET MTG ASSY
2	143-2-851T-89900	SPRING COIL
3	143-2-581T-15600	GEAR
4	407 098 3201	PHOTO COUPLE PN150SAN
5	4-231V-86900	SPECIAL SWITCH
6	143-2-851T-89800	SPRING COIL
7	143-2-581T-15500	GEAR
8	143-2-581T-15400	GEAR
9	143-2-581T-15800	GEAR
10	4-231V-87100	SPECIAL SWITCH
11	143-0-351T-78300	BRACKET MTG ASSY
12	411 021 6405	SCR S-TPG BIN 3X8
13	143-2-741T-64500	LEVER
14	143-2-853T-18200	SPRING PLATE
15	143-2-851T-90000	SPRING COIL
16	143-0-751T-99200	SHAFT ASSY
17	143-2-133T-28235	COMPARTMENT LID
18	4-231V-87000	SPECIAL SWITCH
19	411 036 3208	SCR PAN+SW+W 3X10
20	412 012 8309	SPECIAL WASHER
21	143-0-741T-65200	LEVER ASSY
22	143-2-851T-87701	SPRING COIL
23	412 021 4903	SPECIAL WASHER
24	143-0-711T-02101	BRAKE BAND ASSY
25	411 046 9702	SCR PAN+SW+W 3X6
26	412 015 9600	SPECIAL WASHER
27	143-0-662T-15621	ROLLER ASSY REEL DRIVE
28	143-0-351T-76900	BRACKET MTG ASSY
29	411 023 4201	SCR S-TPG PAN 3X10
30	412 015 8900	SPECIAL WASHER
31	143-2-661T-72800	PULLEY
32	143-2-741T-62100	LEVER
33	412 024 8601	SPECIAL WASHER 0.5T
34	412 015 8702	SPECIAL WASHER
35	143-2-851T-86800	SPRING COIL 0.5T
36	143-2-661T-72701	PULLEY
37	143-2-581T-13700	GEAR
38	143-0-531T-05421	REEL PLATE ASSY
39	412 015 8504	SPECIAL WASHER D3.1XD6X0.5T
or	412 015 8603	SPECIAL WASHER D3.1XD6X0.25T
or	412 015 8702	SPECIAL WASHER D3.1XD6X0.13T
or	412 015 8801	SPECIAL WASHER 0.2T
or	412 015 8900	SPECIAL WASHER 3.1X6X0.4T
or	412 021 5306	SPECIAL WASHER D3.1XD6X0.3T
40	143-2-851T-87600	SPRING COIL
41	143-2-712T-05200	BRAKE SHOE
42	143-0-741T-62200	LEVER ASSY
43	143-0-741T-62300	LEVER ASSY
45	143-2-851T-92501	SPRING COIL
46	143-2-741T-63400	LEVER
47	143-2-851T-92100	SPRING COIL
48	143-2-712T-05501	BRAKE SHOE
49	143-2-741T-62600	LEVER
50	143-2-564T-05300	BELT FLONT LOADING
51	143-2-246T-45500	SHEET
52	411 023 9800	SCR S-TPG PAN 3X8
53	143-2-351T-80200	BRACKET MTG
54	411 047 7905	SCR PAN+FLG 3X7
55	143-2-135T-32900	COVER
56	411 021 3503	SCR S-TPG BIN 3X10



MECHANISM PARTS 3

Ref No.	Part No.	Description
1	143-2-741T-62501	LEVER
2	143-2-851T-88800	SPRING COIL
3	143-0-741T-65100	LEVER ASSY
4	143-2-851T-92600	SPRING COIL
5	143-2-712T-05301	BRAKE SHOE
6	143-0-741T-65800	LEVER ASSY
7	143-2-851T-91100	SPRING COIL
8	412 021 4903	SPECIAL WASHER
9	412 015 9600	SPECIAL WASHER
10	143-0-581T-15000	GEAR ASSY
11	412 012 7708	SPECIAL WASHER
or	412 015 8504	SPECIAL WASHER
12	143-0-741T-65600	LEVER ASSY
13	412 015 9501	SPECIAL WASHER
14	143-0-741T-65700	LEVER ASSY
15	143-0-741T-62921	LEVER ASSY
16	143-2-851T-87500	SPRING COIL
17	412 015 8504	SPECIAL WASHER
18	412 021 4903	SPECIAL WASHER 0.6T
19	412 021 6105	SPECIAL WASHER
20	143-0-731T-16300	SLIDE ASSY
21	143-2-681T-19800	SLEEVE
22	143-0-731T-16400	SLIDE ASSY
23	412 023 1801	WASHER F 3.2X10X0.5
24	143-2-851T-87400	SPRING COIL
25	4-231V-87400	SPECIAL SWITCH
26	411 036 2805	SCR PAN+SW+W 2.6X6
27	411 024 4101	SCR S-TPG PAN+FLG 2.6X6
28	143-0-581T-14300	GEAR ASSY
29	143-2-581T-16100	GEAR
30	143-2-741T-63600	LEVER
32	143-2-564T-05001	BELT REEL DRIVE

Ref No.	Part No.	Description
33	4-527V-54301	BRUSHLESS MOTOR
34	411 023 4003	SCR S-TPG PAN 3X10
35	143-2-210T-09600	BRACKET
36	143-0-233V-26750	MC2 ASSY
37	143-0-731T-16600	SLIDE ASSY
38	143-2-581T-16000	GEAR
39	143-2-581T-14600	GEAR
40	143-2-581T-14500	GEAR
41	143-2-564T-04900	BELT TAPE LOADING
42	143-0-581T-14400	GEAR ASSY
43	412 012 7708	SPECIAL WASHER
44	143-2-681T-19900	SLEEVE
45	411 045 6702	SCR PAN+SW 3X8
46	143-0-351T-77200	BRACKET MTG ASSY
47	411 024 4309	SCR S-TPG PAN+FLG 2.6X8
48	143-2-351T-79600	BRACKET MTG
49	143-0-581T-16300	GEAR ASSY
50	412 012 8309	SPECIAL WASHER
51	143-2-581T-14700	GEAR
52	411 023 9800	SCR S-TPG PAN 3X8
53	143-0-233V-26621	MC1 ASSY
54	411 047 6809	SCR PAN-FLG 3X4
56	143-0-581T-14001	GEAR ASSY
57	143-0-741T-62800	LEVER ASSY
58	143-2-851T-87300	SPRING COIL
60	143-0-581T-13801	GEAR ASSY
61	143-2-324T-01000	EARTH PLATE
73	143-2-310T-09300	BRACKET
75	411 102 9905	WASHER Y 3.2X8X1



ELECTRICAL PARTS

NOTE:

* Materials of Capacitors are abbreviated as follows;

ALUMINUM	Aluminum Electrolytic Capacitor
BC CON	Barrier Layer Ceramic Capacitor
CERAMIC	Ceramic Capacitor
EDL	Electric Double Layer Capacitor
ELECT	Electrolytic Capacitor
MYLAR	Mylar Film Capacitor
NON POLARIZED	Non Polarized Electrolytic Capacitor
POLYPRO	Polypropylene Capacitor

* Tolerance of Capacitor, Resistors and Other parts are noted with follow symboles;

A	+75-10%
F	±1%
G	±2%
J	±5%
K	±10%
M	±20%
N	±30%
P	+100-0%
Z	+80-20%

VD-1 BOARD (VIDEO)
NO.143-0-233V-62001

Location	Part No.	Description
	143-2-377T-22300	TERMINAL BOARD
	143-2-143T-91510	PLATE,TERMINAL
	143-2-143T-81900	PLATE,TERMINAL
	143-2-464T-07700	FIXER,VD-1 BOARD
	143-2-143T-91900	PLATE,REMOTE
		(COMPOSITE)
B1021	405 018 2501	TR 2SC3399-AC
or	405 001 0408	TR RN1204-TPE4
B1022	405 018 2501	TR 2SC3399-AC
or	405 001 0408	TR RN1204-TPE4
B1201	405 018 2600	TR 2SC3400-AC
or	405 001 0309	TR RN1203-TPE4
B1202	405 018 2501	TR 2SC3399-AC
or	405 001 0408	TR RN1204-TPE4
B1301	405 018 2501	TR 2SC3399-AC
or	405 001 0408	TR RN1204-TPE4
B1401	405 018 2501	TR 2SC3399-AC
or	405 001 0408	TR RN1204-TPE4
B1402	405 018 2501	TR 2SC3399-AC
or	405 001 0408	TR RN1204-TPE4
B1403	405 018 2501	TR 2SC3399-AC
or	405 001 0408	TR RN1204-TPE4
B1404	405 018 2501	TR 2SC3399-AC
or	405 001 0408	TR RN1204-TPE4
B1501	405 018 2501	TR 2SC3399-AC
or	405 001 0408	TR RN1204-TPE4
B1571	405 018 2501	TR 2SC3399-AC
or	405 001 0408	TR RN1204-TPE4
B1572	405 018 2501	TR 2SC3399-AC
or	405 001 0408	TR RN1204-TPE4
		(CAPACITORS)
C1001	403 004 1002	CERAMIC 0.047MF M 25V
C1002	403 039 2104	ELECT 47MF M 6.3V
C1003	403 014 2600	CERAMIC 18PF J 50V
C1004	403 046 9905	ELECT 4.7MF M 25V
C1005	403 030 6309	CERAMIC 68PF J 50V
C1006	403 073 6205	CERAMIC 470PF J 50V
C1007	403 075 3103	CERAMIC 82PF J 50V
C1009	403 074 8703	CERAMIC 680PF J 50V
C1010	403 014 2600	CERAMIC 18PF J 50V
C1011	403 046 9905	ELECT 4.7MF M 25V
C1014	403 040 1707	ELECT 22MF M 10V
C1016	403 004 1002	CERAMIC 0.047MF M 25V
C1017	403 039 2104	ELECT 47MF M 6.3V
C1018	403 046 9905	ELECT 4.7MF M 25V
C1019	403 046 9905	ELECT 4.7MF M 25V
C1020	403 043 3906	ELECT 33MF M 16V
C1021	403 001 1906	CERAMIC 0.01MF M 16V
C1023	403 001 1906	CERAMIC 0.01MF M 16V
C1024	403 049 0008	ELECT 1MF M 50V
C1025	403 012 6006	CERAMIC 15PF J 50V
C1031	403 001 1906	CERAMIC 0.01MF M 16V
C1101	403 041 8804	ELECT 10MF M 16V
C1102	403 046 9905	ELECT 4.7MF M 25V
C1103	403 041 8804	ELECT 10MF M 16V
C1104	403 001 1906	CERAMIC 0.01MF M 16V
C1105	403 001 1906	CERAMIC 0.01MF M 16V
C1106	403 001 1906	CERAMIC 0.01MF M 16V
C1107	403 041 2109	ELECT 47MF M 10V
C1108	403 004 1002	CERAMIC 0.047MF M 25V
C1109	403 039 2104	ELECT 47MF M 6.3V
C1201	403 049 0008	ELECT 1MF M 50V
C1202	403 070 3702	CERAMIC 120PF J 50V
C1203	403 070 3702	CERAMIC 120PF J 50V
C1204	403 001 1906	CERAMIC 0.01MF M 16V
C1206	403 012 6006	CERAMIC 15PF J 50V
C1207	403 039 2104	ELECT 47MF M 6.3V
C1208	403 004 1002	CERAMIC 0.047MF M 25V
C1210	403 049 0008	ELECT 1MF M 50V
C1211	403 049 0008	ELECT 1MF M 50V
C1212	403 059 6007	POLYESTER 0.022MF K 50V
C1213	403 049 0008	ELECT 1MF M 50V
C1214	403 049 0008	ELECT 1MF M 50V
C1215	403 049 0008	ELECT 1MF M 50V
C1216	403 039 2104	ELECT 47MF M 6.3V
C1217	403 019 9703	CERAMIC 27PF J 50V
C1218	403 073 6205	CERAMIC 470PF J 50V
C1219	403 001 1906	CERAMIC 0.01MF M 16V
C1220	403 001 1906	CERAMIC 0.01MF M 16V
C1221	403 001 1906	CERAMIC 0.01MF M 16V
C1222	403 001 1906	CERAMIC 0.01MF M 16V
C1223	403 001 1906	CERAMIC 0.01MF M 16V
C1301	403 041 8804	ELECT 10MF M 16V
C1302	403 039 2104	ELECT 47MF M 6.3V
C1303	403 143 2809	CERAMIC 0.047MF Z 50V
C1304	403 001 1906	CERAMIC 0.01MF M 16V
C1305	403 041 8804	ELECT 10MF M 16V
C1306	403 001 1906	CERAMIC 0.01MF M 16V
C1401	403 043 9106	ELECT 47MF M 16V
C1402	403 043 9106	ELECT 47MF M 16V
C1403	403 043 9106	ELECT 47MF M 16V
C1404	403 043 9106	ELECT 47MF M 16V
C1405	403 043 9106	ELECT 47MF M 16V
C1406	403 043 9106	ELECT 47MF M 16V
C1501	403 049 0008	ELECT 1MF M 50V
C1502	403 039 2104	ELECT 47MF M 6.3V
C1503	403 040 1707	ELECT 22MF M 10V
C1504	403 038 9708	ELECT 330MF M 6.3V
C1505	403 043 9106	ELECT 47MF M 16V
C1506	403 039 3507	ELECT 470MF M 6.3V
C1507	403 004 1002	CERAMIC 0.047MF M 25V
C1508	403 043 9106	ELECT 47MF M 16V
C1509	403 039 2104	ELECT 47MF M 6.3V
C1510	403 001 1906	CERAMIC 0.01MF M 16V
C1511	403 038 1603	ELECT 100MF M 6.3V
C1514	403 039 2104	ELECT 47MF M 6.3V
C1515	403 039 2104	ELECT 47MF M 6.3V
C1517	403 038 1603	ELECT 100MF M 6.3V
C1518	403 001 1906	CERAMIC 0.01MF M 16V

Location	Part No.	Description
R1204	401 012 5609	CARBON 1K JA 1/4W
R1205	401 020 0702	CARBON 470 JA 1/4W
R1206	401 014 4006	CARBON 1.5K JA 1/4W
R1207	401 019 7200	CARBON 430 JA 1/4W
R1208	401 018 4804	CARBON 33K JA 1/4W
R1209	401 015 9406	CARBON 2K JA 1/4W
R1210	401 020 0702	CARBON 470 JA 1/4W
R1211	401 014 4006	CARBON 1.5K JA 1/4W
R1212	401 013 6308	CARBON 12K JA 1/4W
R1213	401 022 1806	CARBON 680 JA 1/4W
R1214	401 012 4404	CARBON 100 JA 1/4W
R1215	401 013 4106	CARBON 120 JA 1/4W
R1216	401 012 5609	CARBON 1K JA 1/4W
R1301	401 021 2903	CARBON 5.6K JA 1/4W
R1302	401 014 6000	CARBON 150K JA 1/4W
R1303	401 016 3700	CARBON 2.2K JA 1/4W
R1304	401 020 0702	CARBON 470 JA 1/4W
R1305	401 016 4707	CARBON 22K JA 1/4W
R1306	401 016 4707	CARBON 22K JA 1/4W
R1307	401 012 5609	CARBON 1K JA 1/4W
R1309	401 012 6903	CARBON 10K JA 1/4W
R1310	401 016 4707	CARBON 22K JA 1/4W
R1311	401 016 4707	CARBON 22K JA 1/4W
R1401	401 012 5609	CARBON 1K JA 1/4W
R1402	401 020 1907	CARBON 4.7K JA 1/4W
R1403	401 012 6903	CARBON 10K JA 1/4W
R1404	401 012 5609	CARBON 1K JA 1/4W
R1405	401 016 4707	CARBON 22K JA 1/4W
R1406	401 017 1705	CARBON 2.7K JA 1/4W
R1407	401 017 1705	CARBON 2.7K JA 1/4W
R1408	401 021 2903	CARBON 5.6K JA 1/4W
R1409	401 022 7600	CARBON 7.5K JA 1/4W
R1410	401 012 5609	CARBON 1K JA 1/4W
R1411	401 012 4404	CARBON 100 JA 1/4W
R1412	401 022 1806	CARBON 680 JA 1/4W
R1501	401 016 3700	CARBON 2.2K JA 1/4W
R1502	401 017 1705	CARBON 2.7K JA 1/4W
R1503	401 017 1705	CARBON 2.7K JA 1/4W
R1504	401 020 1907	CARBON 4.7K JA 1/4W
R1505	401 019 7200	CARBON 430 JA 1/4W
R1506	401 022 3008	CARBON 6.8K JA 1/4W
R1507	401 021 1807	CARBON 560 JA 1/4W
R1508	401 020 1907	CARBON 4.7K JA 1/4W
R1509	401 020 1907	CARBON 4.7K JA 1/4W
R1510	401 020 1907	CARBON 4.7K JA 1/4W
R1511	401 022 4005	CARBON 68K JA 1/4W
R1512	401 016 2505	CARBON 220 JA 1/4W
R1513	401 015 2605	CARBON 1.8K JA 1/4W
R1514	401 012 6903	CARBON 10K JA 1/4W
R1515	401 012 6903	CARBON 10K JA 1/4W
R1516	401 015 2605	CARBON 1.8K JA 1/4W
R1517	401 012 5609	CARBON 1K JA 1/4W
R1518	401 021 1807	CARBON 560 JA 1/4W
R1519	401 022 0700	CARBON 68 JA 1/4W
R1520	401 022 6702	CARBON 75 JA 1/4W
R1523	401 016 4707	CARBON 22K JA 1/4W
R1524	401 020 1907	CARBON 4.7K JA 1/4W
R1525	401 020 2805	CARBON 47K JA 1/4W
R1526	401 020 2805	CARBON 47K JA 1/4W
R1527	401 012 6903	CARBON 10K JA 1/4W
R1528	401 012 6903	CARBON 10K JA 1/4W
R1529	401 021 0602	CARBON 56 JA 1/4W
R1530	401 021 2903	CARBON 5.6K JA 1/4W
R1531	401 021 2903	CARBON 5.6K JA 1/4W
R1532	401 016 4707	CARBON 22K JA 1/4W
R1535	401 023 1607	CARBON 820 JA 1/4W
R1536	401 015 2605	CARBON 1.8K JA 1/4W
R1539	401 018 7904	CARBON 3.6K JA 1/4W
R1540	401 014 8509	CARBON 1.6K JA 1/4W
R1541	401 022 7105	CARBON 750 JA 1/4W
R1542	401 017 1705	CARBON 2.7K JA 1/4W
R1545	401 013 6308	CARBON 12K JA 1/4W
R1546	401 021 2903	CARBON 5.6K JA 1/4W
R1571	401 012 5609	CARBON 1K JA 1/4W
R1572	401 020 8302	CARBON 5.1K JA 1/4W
R1573	401 016 4707	CARBON 22K JA 1/4W
R1574	401 016 4707	CARBON 22K JA 1/4W
R1575	401 012 5609	CARBON 1K JA 1/4W
R1576	401 020 2805	CARBON 47K JA 1/4W
R1577	401 020 2805	CARBON 47K JA 1/4W
		(SEMI VARIABLE RESISTORS)
SVR1001	4–222V–69103	SEMI VR 1K OHM
or	4–222V–68906	SEMI VR 1K OHM
SVR1102	4–222V–69103	SEMI VR 1K OHM
or	4–222V–68906	SEMI VR 1K OHM
SVR1201	4–222V–69103	SEMI VR 1K OHM
or	4–222V–68906	SEMI VR 1K OHM
SVR1202	4–222V–69110	SEMI VR 50K OHM
or	4–222V–68916	SEMI VR 47K OHM
SVR1502	4–222V–69103	SEMI VR 1K OHM
or	4–222V–68906	SEMI VR 1K OHM
		(TRANSFORMER)
T1301	4–255V–11800	CHOKE COIL
		(MISCELLANEOUS)
CF1301	4–953V–07400	FILTER
CN1501	4–235V–45200	SOCKET,21PIN
DL1201	4–284V–19400	DELAY LINE
DL1501	4–228V–16100	LC PACK
F1001	4–228V–21200	LC PACK 4MHZ
F1101	4–953V–28700	FILTER
F1201	4–228V–20700	LC PACK
F1202	4–953V–23000	FILTER 1.4MHZ
F1501	4–234V–18311	FUSE 500MA 250V
F1502	4–953V–33811	FILTER
HIC1001	409 141 7006	IC EHM-X4672Y05
HIC1201	409 145 2700	IC BX7507-1
X1201	4–225V–18400	CRYSTAL 4.433619MHZ
or	4–225V–19000	CRYSTAL 4.433619MHZ

VD-1 BOARD (TUNER)
NO.143-0-233V-62001

Location	Part No.	Description
		(COMPOSITE)
B6080	405 018 2501	TR 2SC3399
B6081	405 018 2501	TR 2SC3399
		(CAPACITORS)
C6080	403 046 9905	ELECT 4.7MF M 25V
C6081	403 067 5603	MT-COMPO 0.1MF J 50V
C6082	403 049 0008	ELECT 1MF M 50V
C6083	403 046 9905	ELECT 4.7MF M 25V
C6085	403 038 1603	ELECT 100MF M 6.3V
C6087	403 121 9509	CERAMIC 0.1MF Z 50V
C6088	403 121 9509	CERAMIC 0.1MF Z 50V
		(DIODES)
D6084	407 004 9709	DIODE DSK10C-BT
or	407 005 8701	DIODE ERA15-02A-V5
D6085	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
		(COILS)
L6084	4–253V–74308	HF CHOKE 1.0UH M
L6086	4–253V–78812	HF CHOKE 100UH K
		(TRANSISTORS)
Q6080	405 019 2708	TR 2SC536-F-NP-AA
or	405 019 1909	TR 2SC536-E-NP-AA

Location	Part No.	Description
C1520	403 001 6505	CERAMIC 3300PF K 16V
C1521	403 121 9509	CERAMIC 0.1MF Z 50V
C1522	403 039 2104	ELECT 47MF M 6.3V
C1571	403 071 1509	CERAMIC 180PF J 50V
C1572	403 073 6205	CERAMIC 470PF J 50V
C1573	403 073 6205	CERAMIC 470PF J 50V
		(DIODES)
D1001	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1101	407 070 8408	ZENER DIODE GZS9.1Y-TB
or	407 053 8906	ZENER DIODE MTZ9.1C-T-77
D1301	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1302	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1401	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1402	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1403	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1404	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1501	407 004 9709	DIODE DSK10C-BT
or	407 005 8701	DIODE ERA15-02A-V5
D1502	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1503	407 051 6607	ZENER DIODE GZS5.1X-BT
or	407 053 6308	ZENER DIODE MTZ5.1B-T-77
D1504	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1505	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1506	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1507	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1508	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1509	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1510	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1571	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D1572	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
		(INTEGRATED CIRCUITS)
IC1101	409 111 9702	IC MSM6965-3RS
IC1301	409 003 4907	IC BA7025L
IC1401	409 018 7603	IC LA7016
IC1402	409 018 7603	IC LA7016
IC1501	409 003 4501	IC BA7021
		(COILS)
L1001	4–253V–97125	HF CHOKE 100UH K
L1002	4–253V–97011	HF CHOKE 68UH J
L1003	4–253V–97004	HF CHOKE 18UH J
L1004	4–253V–97123	HF CHOKE 68UH K
L1005	4–253V–97125	HF CHOKE 100UH K
L1006	4–253V–97125	HF CHOKE 100UH K
L1007	4–253V–97124	HF CHOKE 82UH K
L1008	4–253V–74320	HF CHOKE 10UH K
L1101	4–253V–97125	HF CHOKE 100UH K
L1201	4–253V–97015	HF CHOKE 150UH J
L1202	4–253V–97001	HF CHOKE 10UH J
L1203	4–253V–97006	HF CHOKE 27UH J
L1204	4–253V–97125	HF CHOKE 100UH K
L1205	4–253V–97003	HF CHOKE 15UH J
L1401	4–253V–97125	HF CHOKE 100UH K
L1402	4–253V–97125	HF CHOKE 100UH K
L1501	4–253V–97125	HF CHOKE 100UH K

Location	Part No.	Description
L1502	4–253V–97125	HF CHOKE 100UH K
L1503	4–253V–74308	HF CHOKE 1.0UH M
		(TRANSISTORS)
Q1001	405 004 4007	TR 2SA608-E-SPA-AC
or	405 006 1707	TR 2SA933S-TP-Q
Q1101	405 016 0905	TR 2SC2839-E-SPA-AC
or	405 015 2504	TR 2SC2669 O
Q1102	405 004 4007	TR 2SA608-E-SPA-AC
or	405 006 1707	TR 2SA933S-TP-Q
Q1201	405 004 4007	TR 2SA608-E-SPA-AC
or	405 006 1707	TR 2SA933S-TP-Q
Q1202	405 019 2005	TR 2SC536-E-SPA-AC
or	405 011 8401	TR 2SC1740S-DCTP-Q
Q1203	405 019 2005	TR 2SC536-E-SPA-AC
or	405 011 8401	TR 2SC1740S-DCTP-Q
Q1401	405 004 4007	TR 2SA608-E-SPA-AC
or	405 006 1707	TR 2SA933S-TP-Q
Q1402	405 004 4007	TR 2SA608-E-SPA-AC
or	405 006 1707	TR 2SA933S-TP-Q
Q1501	405 006 6504	TR 2SA984-E-AA
or	405 006 6702	TR 2SA984-F-AA
Q1502	405 006 6504	TR 2SA984-E-AA
or	405 006 6702	TR 2SA984-F-AA
Q1503	405 043 6000	TR 2SC3807
Q1504	405 006 6504	TR 2SA984-E-AA
or	405 006 6702	TR 2SA984-F-AA
Q1505	405 019 2708	TR 2SC536-F-NP-AA
or	405 019 1909	TR 2SC536-E-NP-AA
Q1506	405 009 7003	TR 2SB985-T-AE
Q1507	405 019 3804	TR 2SC536-G-NP-AA
or	405 019 2708	TR 2SC536-F-NP-AA
Q1508	405 009 7003	TR 2SB985-T-AE
Q1509	405 004 4007	TR 2SA608-E-SPA-AC
or	405 006 1707	TR 2SA933S-TP-Q
Q1510	405 016 0905	TR 2SC2839-E-SPA-AC
or	405 015 2504	TR 2SC2669 O
Q1511	405 004 4007	TR 2SA608-E-SPA-AC
or	405 006 1707	TR 2SA933S-TP-Q
Q1571	405 019 2708	TR 2SC536-F-NP-AA
or	405 019 1909	TR 2SC536-E-NP-AA
Q1572	405 019 2708	TR 2SC536-F-NP-AA
or	405 019 1909	TR 2SC536-E-NP-AA
		(RESISTORS)
R1001	401 015 2605	CARBON 1.8K JA 1/4W
R1002	401 015 2605	CARBON 1.8K JA 1/4W
R1003	401 014 4006	CARBON 1.5K JA 1/4W
R1004	401 013 5202	CARBON 1.2K JA 1/4W
R1005	401 012 5609	CARBON 1K JA 1/4W
R1006	401 023 1607	CARBON 820 JA 1/4W
R1007	401 022 1806	CARBON 680 JA 1/4W
R1008	401 012 5609	CARBON 1K JA 1/4W
R1009	401 018 3708	CARBON 3.3K JA 1/4W
R1010	401 023 2703	CARBON 8.2K JA 1/4W
R1011	401 016 6404	CARBON 2.2M JA 1/4W
R1013	401 012 5609	CARBON 1K JA 1/4W
R1014	401 012 5609	CARBON 1K JA 1/4W
R1015	401 012 5609	CARBON 1K JA 1/4W
R1016	401 012 6903	CARBON 10K JA 1/4W
R1017	401 014 7106	CARBON 1.5M JA 1/4W
R1021	401 012 6903	CARBON 10K JA 1/4W
R1101	401 022 7105	CARBON 750 JA 1/4W
R1102	401 019 7200	CARBON 430 JA 1/4W
R1103	401 015 2605	CARBON 1.8K JA 1/4W
R1104	401 023 2703	CARBON 8.2K JA 1/4W
R1105	401 017 9206	CARBON 3K JA 1/4W
R1106	401 012 4404	CARBON 100 JA 1/4W
R1107	401 013 4106	CARBON 120 JA 1/4W
R1108	401 012 5609	CARBON 1K JA 1/4W
R1109	401 021 1807	CARBON 560 JA 1/4W
R1201	401 012 5609	CARBON 1K JA 1/4W
R1202	401 012 5609	CARBON 1K JA 1/4W
R1203	401 021 2903	CARBON 5.6K JA 1/4W

Location	Part No.	Description
		(RESISTORS)
R6080	401 012 5609	CARBON 1K JA 1/4W
R6081	401 014 5102	CARBON 15K JA 1/4W
R6082	401 013 6308	CARBON 12K JA 1/4W
R6084	401 017 8506	CARBON 300 JA 1/4W

VP-1 BOARD (VIDEO PRE-AMP) NO.143-0-233V-43802

Location	Part No.	Description
		(CAPACITORS)
C1602	403 069 5601	CERAMIC 0.01MF K 50V
C1603	403 069 5601	CERAMIC 0.01MF K 50V
C1604	403 043 9700	ELECT 47MF M 16V
C1605	403 069 5601	CERAMIC 0.01MF K 50V
C1606	403 069 5601	CERAMIC 0.01MF K 50V
C1607	403 069 5601	CERAMIC 0.01MF K 50V
C1609	403 069 1702	CERAMIC 1000PF K 50V
C1610	403 114 3101	CERAMIC 1MF Z 16V
C1611	403 114 3101	CERAMIC 1MF Z 16V
C1612	403 069 5601	CERAMIC 0.01MF K 50V
C1613	403 069 5601	CERAMIC 0.01MF K 50V
C1614	403 024 2201	CERAMIC 39PF J 50V
C1615	403 024 2201	CERAMIC 39PF J 50V
C1616	403 069 5601	CERAMIC 0.01MF K 50V
C1617	403 068 0409	CERAMIC 0.1MF Z 25V
C1618	403 039 3101	ELECT 47MF M 6.3V
C1622	403 069 5601	CERAMIC 0.01MF K 50V
C1632	403 069 5601	CERAMIC 0.01MF K 50V
C1641	403 008 3903	CERAMIC 10PF C 50V
C1642	403 017 5004	CERAMIC 200PF J 50V
C1643	403 014 3508	CERAMIC 18PF J 50V
C1644	403 018 0602	CERAMIC 22PF J 50V
C1645	403 114 3101	CERAMIC 1MF Z 16V
		(INTEGRATED CIRCUIT)
IC1601	409 118 8401	IC AN3330K
		(COILS)
L1602	4–253V–76132	HF CHOKE 100UH J
L1603	4–253V–76132	HF CHOKE 100UH J
L1641	4–253V–76120	HF CHOKE 10UH J
L1642	4–253V–75017	HF CHOKE 5.6UH K
L1643	4–253V–76123	HF CHOKE 18UH J
		(TRANSISTORS)
Q1640	405 015 9701	TR 2SC2814-F4-TB
Q1641	405 015 9701	TR 2SC2814-F4-TB
		(RESISTORS)
R1601	401 038 7601	MT-GLAZE 560 JA 1/10W
R1603	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R1605	401 038 7601	MT-GLAZE 560 JA 1/10W
R1606	401 038 7601	MT-GLAZE 560 JA 1/10W
R1607	401 038 7601	MT-GLAZE 560 JA 1/10W
R1609	401 035 4900	MT-GLAZE 1K JA 1/8W
R1612	401 037 7701	MT-GLAZE 15 JA 1/10W
R1613	401 037 7701	MT-GLAZE 15 JA 1/10W
R1623	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R1624	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R1641	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R1642	401 039 0304	MT-GLAZE 820 JA 1/10W
R1643	401 037 6704	MT-GLAZE 1.2K JA 1/10W
R1644	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R1645	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R1646	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R1651	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1652	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1653	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1654	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1655	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1656	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1657	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R1658	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1660	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1661	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1662	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R1663	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1664	401 036 7207	MT-GLAZE 4.7 JA 1/8W

VP-1 BOARD (AUDIO) NO.143-0-233V-43802

Location	Part No.	Description
		(CAPACITORS)
C2901	403 069 5601	CERAMIC 0.01MF K 50V
C2902	403 018 7502	CERAMIC 220PF J 50V
C2904	403 018 7502	CERAMIC 220PF J 50V
C2905	403 069 5601	CERAMIC 0.01MF K 50V
C2906	403 069 5601	CERAMIC 0.01MF K 50V
C2907	403 043 9700	ELECT 47MF M 16V
C2908	403 069 5601	CERAMIC 0.01MF K 50V
C2909	403 043 9700	ELECT 47MF M 16V
C2910	403 114 3101	CERAMIC 1MF Z 16V
C2911	403 114 3101	CERAMIC 1MF Z 16V
C2912	403 069 5700	CERAMIC 0.01MF K 50V
C2913	403 069 5601	CERAMIC 0.01MF K 50V
C2914	403 105 5107	ELECT 22MF M 16V
C2915	403 040 2902	ELECT 22MF M 10V
C2916	403 068 3707	CERAMIC 0.33MF Z 25V
		(DIODES)
D2901	407 003 4507	DIODE DAP202K-T-96
D2902	407 056 9306	ZENER DIODE RD5.1M-T1BB2
		(INTEGRATED CIRCUITS)
IC2901	409 122 3102	IC TA7742P
IC2902	409 139 3607	IC TA78L008AP
		(COILS)
L2901	4–253V–76132	HF CHOKE 100UH J
L2902	4–253V–76130	HF CHOKE 68UH J
		(TRANSISTORS)
Q2901	405 002 0209	TR 2SA1037K-T96-Q
or	405 002 0308	TR 2SA1037K-T96-R
Q2902	405 002 0209	TR 2SA1037K-T96-Q
or	405 002 0308	TR 2SA1037K-T96-R
Q2903	405 002 0209	TR 2SA1037K-T96-Q
or	405 002 0308	TR 2SA1037K-T96-R
		(RESISTORS)
R2901	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R2903	401 035 4306	MT-GLAZE 10 JA 1/8W
R2904	401 035 4306	MT-GLAZE 10 JA 1/8W
R2905	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R2906	401 038 5805	MT-GLAZE 430 JA 1/10W
R2907	401 038 5805	MT-GLAZE 430 JA 1/10W
R2908	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R2909	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R2910	401 038 5003	MT-GLAZE 390 JA 1/10W
R2911	401 038 5003	MT-GLAZE 390 JA 1/10W
R2912	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R2913	401 037 5400	MT-GLAZE 1K JA 1/10W
R2914	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R2915	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R2916	401 037 3802	MT-GLAZE 8.2K JA 1/8W
R2917	401 037 5400	MT-GLAZE 1K JA 1/10W
R2918	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R2919	401 021 1807	CARBON 560 JA 1/4W

Location	Part No.	Description
R2920	401 021 1807	CARBON 560 JA 1/4W
R2921	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R2922	401 035 4108	MT-GLAZE 0.000 ZA 1/8W

AD-1 BOARD (AUDIO)
NO.143-0-233V-65650

Location	Part No.	Description
		(COMPOSITE)
BC2001	4–471V–11900	CORE
B2001	405 018 2501	TR 2SC3399-AC
B2002	405 003 7603	TR 2SA1345-AC
B2003	405 018 2501	TR 2SC3399-AC
B2004	405 003 7702	TR 2SA1346-AC
B2005	405 018 2501	TR 2SC3399-AC
B2006	405 003 7702	TR 2SA1346-AC
B2007	405 018 2501	TR 2SC3399-AC
B2008	405 003 7702	TR 2SA1346-AC
B2009	405 018 2501	TR 2SC3399-AC
B2010	405 003 7702	TR 2SA1346-AC
B2011	405 076 6404	TR DTC343T-STP
B2012	405 076 6404	TR DTC343T-STP
B2013	405 076 6404	TR DTC343T-STP
B2014	405 076 6404	TR DTC343T-STP
B2015	405 076 6305	TR DTC314T-STP
B2016	405 076 6305	TR DTC314T-STP
B2017	405 003 7702	TR 2SA1346-AC
B2018	405 018 2501	TR 2SC3399-AC
B2019	405 018 2501	TR 2SC3399-AC
B2020	405 003 7702	TR 2SA1346-AC
B2021	405 018 2501	TR 2SC3399-AC
B2101	4–227V–23300	CR PACK
B2102	4–227V–23400	CR PACK
B2103	4–227V–23500	CR PACK
B2104	4–227V–23600	CR PACK
		(CAPACITORS)
C2001	403 057 5200	POLYESTER 1200PF J 50V
C2002	403 043 4408	ELECT 33MF M 16V
C2003	403 042 8308	ELECT 22MF M 16V
C2004	403 042 8308	ELECT 22MF M 16V
C2005	403 041 8804	ELECT 10MF M 16V
C2006	403 042 7707	ELECT 22MF M 16V
C2007	403 041 9405	ELECT 10MF M 16V
C2008	403 039 7307	ELECT 100MF M 10V
C2009	403 041 9405	ELECT 10MF M 16V
C2010	403 041 9405	ELECT 10MF M 16V
C2011	403 040 7501	ELECT 33MF M 10V
C2101	403 063 3900	POLYESTER 820PF J 50V
C2102	403 043 3906	ELECT 33MF M 16V
C2103	403 042 8308	ELECT 22MF M 16V
C2104	403 042 8308	ELECT 22MF M 16V
C2105	403 041 8804	ELECT 10MF M 16V
C2106	403 042 8308	ELECT 22MF M 16V
C2107	403 041 9405	ELECT 10MF M 16V
C2108	403 039 7307	ELECT 100MF M 10V
C2109	403 041 9405	ELECT 10MF M 16V
C2110	403 041 9405	ELECT 10MF M 16V
C2111	403 040 7501	ELECT 33MF M 10V
C2201	403 042 8308	ELECT 22MF M 16V
C2202	403 046 2104	ELECT 3.3MF M 25V
C2203	403 074 8703	CERAMIC 680PF J 50V
C2204	403 041 8804	ELECT 10MF M 16V
C2205	403 042 7707	ELECT 22MF M 16V
C2206	403 043 9601	ELECT 47MF M 16V
C2207	403 042 3006	ELECT 100MF M 16V
C2208	403 041 8804	ELECT 10MF M 16V
C2209	403 043 9106	ELECT 47MF M 16V
C2210	403 048 6308	ELECT 0.47MF M 50V
C2211	403 043 6006	ELECT 330MF M 16V
C2212	403 048 6308	ELECT 0.47MF M 50V
C2213	403 041 4509	ELECT 470MF M 10V
C2214	403 001 1906	CERAMIC 0.01MF M 16V
C2215	403 041 8804	ELECT 10MF M 16V
C2216	403 042 2405	ELECT 100MF M 16V
C2217	403 041 8804	ELECT 10MF M 16V
C2218	403 001 1906	CERAMIC 0.01MF M 16V
C2219	403 041 4509	ELECT 470MF M 10V
C2220	403 050 0509	ELECT 2.2MF M 50V
C2221	403 045 7803	ELECT 220MF M 25V
C2222	403 041 9405	ELECT 10MF M 16V
C2223	403 049 0008	ELECT 1MF M 50V
C2224	403 041 8804	ELECT 10MF M 16V
C2225	403 038 5403	ELECT 22MF M 6.3V
C2226	403 046 9905	ELECT 4.7MF M 25V
		(DIODES)
D2001	407 012 4406	DIODE 1SS133-T-77
D2002	407 012 4406	DIODE 1SS133-T-77
D2003	407 013 7109	DIODE 1S2473-T-77
D2004	407 012 4406	DIODE 1SS133-T-77
D2005	407 012 4406	DIODE 1SS133-T-77
D2021	407 053 7107	ZENER DIODE MTZ6.2B-T-77
D2022	407 050 6202	ZENER DIODE GZA6.2Y-BT
D2023	407 053 6704	ZENER DIODE MTZ5.6B-T-77
D2024	407 051 4801	ZENER DIODE GZS2.0X-BT
		(INTEGRATED CIRCUITS)
IC2001	409 036 6800	IC M5218L-01
or	409 117 9201	IC BA15218N
IC2002	409 110 4302	IC M51131L
IC2003	409 110 4401	IC M5230L
IC2004	409 121 6302	IC M5222L
IC2005	409 036 6800	IC M5218L-01
or	409 117 9201	IC BA15218N
IC2006	409 114 4506	IC LA7236
		(TRANSISTORS)
Q2001	405 019 2708	TR 2SC536-F-NP-AA
or	405 019 1909	TR 2SC536-E-NP-AA
Q2002	405 019 2708	TR 2SC536-F-NP-AA
or	405 019 1909	TR 2SC536-E-NP-AA
Q2003	405 024 0102	TR 2SD545-E-NP-AA
Q2004	405 024 0102	TR 2SD545-E-NP-AA
Q2005	405 007 0006	TR 2SB1142-S
or	405 042 7305	TR 2SB1142-R
Q2006	405 022 8001	TR 2SD1682-S
or	405 043 3504	TR 2SD1682-R
Q2007	405 019 2807	TR 2SC536-F-SPA-AC
or	405 019 2005	TR 2SC536-E-SPA-AC
Q2008	405 019 2708	TR 2SC536-F-NP-AA
or	405 019 1909	TR 2SC536-E-NP-AA
Q2009	405 019 2807	TR 2SC536-F-SPA-AC
or	405 019 2005	TR 2SC536-E-SPA-AC
Q2010	405 019 2708	TR 2SC536-F-NP-AA
or	405 019 1909	TR 2SC536-E-NP-AA
Q2011	405 004 4007	TR 2SA608-E-SPA-AC
or	405 004 4601	TR 2SA608-F-SPA-AC
		(RESISTORS)
R2001	401 026 0003	CARBON 24K JA 1/6W
R2002	401 016 8507	CARBON 24K JA 1/4W
R2003	401 026 7408	CARBON 39K JA 1/6W
R2004	401 027 9005	CARBON 82K JA 1/6W
R2005	401 026 5800	CARBON 3.6K JA 1/6W
R2006	401 025 1605	CARBON 1.5K JA 1/6W
R2007	401 024 7004	CARBON 1K JA 1/6W
R2008	401 026 4308	CARBON 3.3K JA 1/6W
R2009	401 012 8105	CARBON 100K JA 1/4W
R2010	401 025 7409	CARBON 220 JA 1/6W
R2011	401 027 2105	CARBON 56 JA 1/6W
R2012	401 025 7805	CARBON 2.2K JA 1/6W
R2013	401 026 0003	CARBON 24K JA 1/6W
R2101	401 016 8507	CARBON 24K JA 1/4W

Location	Part No.	Description
R2102	401 026 0003	CARBON 24K JA 1/6W
R2103	401 026 7408	CARBON 39K JA 1/6W
R2104	401 027 9005	CARBON 82K JA 1/6W
R2105	401 027 2600	CARBON 5.6K JA 1/6W
R2106	401 026 8702	CARBON 4.3K JA 1/6W
R2107	401 024 7004	CARBON 1K JA 1/6W
R2108	401 026 4308	CARBON 3.3K JA 1/6W
R2109	401 012 8105	CARBON 100K JA 1/4W
R2110	401 025 7409	CARBON 220 JA 1/6W
R2111	401 027 2105	CARBON 56 JA 1/6W
R2112	401 025 7805	CARBON 2.2K JA 1/6W
R2113	401 026 0003	CARBON 24K JA 1/6W
R2201	401 025 7805	CARBON 2.2K JA 1/6W
R2202	401 020 2003	CARBON 4.7K JA 1/4W
R2203	401 025 3302	CARBON 16K JA 1/6W
R2204	401 027 5502	CARBON 6.8K JA 1/6W
R2205	401 020 8401	CARBON 5.1K JA 1/4W
R2206	401 026 9907	CARBON 4.7K JA 1/6W
R2207	401 026 9907	CARBON 4.7K JA 1/6W
R2208	401 026 3202	CARBON 30K JA 1/6W
R2209	401 017 9800	CARBON 30K JA 1/4W
R2210	401 026 9907	CARBON 4.7K JA 1/6W
R2211	401 024 7004	CARBON 1K JA 1/6W
R2212	401 025 4606	CARBON 18K JA 1/6W
R2213	401 025 4606	CARBON 18K JA 1/6W
R2215	401 026 9600	CARBON 470 JA 1/6W
R2216	401 025 4200	CARBON 1.8K JA 1/6W
R2217	401 025 1902	CARBON 15K JA 1/6W
R2218	401 025 1902	CARBON 15K JA 1/6W
R2219	401 024 7004	CARBON 1K JA 1/6W
R2220	401 025 8703	CARBON 220K JA 1/6W
R2221	401 027 4000	CARBON 620 JA 1/6W
R2222	401 026 7002	CARBON 3.9K JA 1/6W
R2223	401 025 1902	CARBON 15K JA 1/6W
R2224	401 025 1902	CARBON 15K JA 1/6W
R2225	401 024 7004	CARBON 1K JA 1/6W
R2226	401 024 7400	CARBON 10K JA 1/6W
R2227	401 024 7004	CARBON 1K JA 1/6W
R2228	401 027 4000	CARBON 620 JA 1/6W
R2229	401 026 9600	CARBON 470 JA 1/6W
R2231	401 025 9007	CARBON 2.2M JA 1/6W
R2232	401 027 8602	CARBON 8.2K JA 1/6W
R2233	401 024 7004	CARBON 1K JA 1/6W
R2241	402 004 2309	FUSIBLE RES 5.6 JA 1/4W
R2242	402 004 0701	FUSIBLE RES 18 JA 1/4W
R2243	402 004 0701	FUSIBLE RES 18 JA 1/4W
		(SEMI VARIABLE RESISTORS)
SVR2001	4–222V–69714	SEMI VR 22K OHM
SVR2101	4–222V–69714	SEMI VR 22K OHM
SVR2201	4–222V–69710	SEMI VR 4.7K OHM
		(MISCELLANEOUS)
HIC2001	409 137 2305	IC A-03

SY-1 BOARD (SYSTEM CONTROL)
NO.143-0-233V-64422

Location	Part No.	Description
		(COMPOSITE)
B3001	405 063 9708	TR DTC144EL-TL2
B3002	405 063 9708	TR DTC144EL-TL2
B3003	405 063 9708	TR DTC144EL-TL2
B3007	405 063 9708	TR DTC144EL-TL2
B3010	4–956V–10303	R-PACK 10K OHMX3 J
B3011	4–956V–10303	R-PACK 10K OHMX3 J
B3012	4–956V–10304	R-PACK 10K OHMX4 J
B3013	4–956V–10305	R-PACK 10K OHMX5 J
B3014	4–956V–10307	R-PACK 10K OHMX7 J
B3015	4–956V–47207	R-PACK 4.7K OHMX7 J
		(CAPACITORS)
C3001	403 022 2005	CERAMIC 30PF J 50V
C3002	403 022 2005	CERAMIC 30PF J 50V
C3003	403 048 7107	ELECT 0.47MF M 50V
C3004	403 022 2005	CERAMIC 30PF J 50V
C3006	403 038 2105	ELECT 100MF M 6.3V
C3007	403 121 9509	CERAMIC 0.1MF Z 50V
C3008	403 068 8801	CERAMIC 100PF J 50V
C3009	403 068 8801	CERAMIC 100PF J 50V
C3011	403 050 0707	ELECT 2.2MF M 50V
C3012	403 110 0609	NP-ELECT 10MF M 50V
or	403 085 7405	NP-ELECT 10MF M 25V
C3013	403 002 2506	CERAMIC 0.01MF M 25V
C3014	403 121 9509	CERAMIC 0.1MF Z 50V
C3015	403 121 9509	CERAMIC 0.1MF Z 50V
C3016	403 121 9509	CERAMIC 0.1MF Z 50V
C3017	403 043 4507	ELECT 33MF M 16V
C3019	403 121 9509	CERAMIC 0.1MF Z 50V
C3020	403 022 2005	CERAMIC 30PF J 50V
C3021	403 022 2005	CERAMIC 30PF J 50V
C3022	403 121 9509	CERAMIC 0.1MF Z 50V
C3023	403 068 8801	CERAMIC 100PF J 50V
C3024	403 121 9509	CERAMIC 0.1MF Z 50V
C3025	403 121 9509	CERAMIC 0.1MF Z 50V
C3026	403 038 2105	ELECT 100MF M 6.3V
C3027	403 069 1207	CERAMIC 1000PF K 50V
C3028	403 071 6207	CERAMIC 220PF K 50V
C3029	403 071 6207	CERAMIC 220PF K 50V
C3050	403 022 7703	CERAMIC 33PF J 50V
C3051	403 022 7703	CERAMIC 33PF J 50V
C3052	403 121 9509	CERAMIC 0.1MF Z 50V
C3053	403 121 9509	CERAMIC 0.1MF Z 50V
C3054	403 121 9509	CERAMIC 0.1MF Z 50V
C3055	403 121 9509	CERAMIC 0.1MF Z 50V
C3056	403 121 9509	CERAMIC 0.1MF Z 50V
		(DIODES)
D3002	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D3003	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D3007	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D3008	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D3009	407 012 4406	DIODE 1SS133-T-77
or	407 007 9904	DIODE GMA01-BT
D3011	407 050 3805	ZENER DIODE GZA4.7Z
or	407 059 0706	ZENER DIODE 05Z4.7Z
D3012	407 050 6202	ZENER DIODE GZA6.2Y
or	407 059 1802	ZENER DIODE 05Z6.2Y
D3013	407 050 7902	ZENER DIODE GZA9.1Z
D3015	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
D3016	407 012 4406	DIODE 1SS133
or	407 007 9904	DIODE GMA01
		(INTEGRATED CIRCUITS)
IC3001	410 039 5103	IC HD404418SM61
IC3002	410 028 3301	IC TMS70C20-28C71022
IC3003	409 114 4803	IC LB1641
or	409 111 9405	IC BA6209N
IC3004	409 018 3902	IC LA6393D
or	409 057 3406	IC UPC393C
IC3005	409 138 3202	IC LC6521H-3557
or	409 141 2704	IC LC6521H-3580
IC3006	409 133 3504	IC LC9105B-132
IC3007	409 032 3704	IC MN1280-R
or	409 032 3803	IC MN1280-S
		(COIL)
L3001	4–253V–97125	HF CHOKE 100UH K

Location	Part No.	Description
		(TRANSISTORS)
Q3001	405 057 6409	TR 2SC4038-R-TL2
Q3002	405 057 6409	TR 2SC4038-R-TL2
Q3004	405 057 6409	TR 2SC4038-R-TL2
Q3005	405 006 6504	TR 2SA984-E-AA
or	405 006 7006	TR 2SA984K-E-AA
Q3006	405 057 6409	TR 2SC4038-R-TL2
		(RESISTORS)
R3001	401 024 8001	CARBON 1M JA 1/6W
R3002	401 024 7400	CARBON 10K JA 1/6W
R3003	401 024 6700	CARBON 100 JA 1/6W
R3004	401 026 4902	CARBON 330K JA 1/6W
R3005	401 025 2305	CARBON 150K JA 1/6W
R3006	401 027 6905	CARBON 750 JA 1/6W
R3007	401 026 9204	CARBON 430K JA 1/6W
R3008	401 026 7408	CARBON 39K JA 1/6W
R3011	401 024 7004	CARBON 1K JA 1/6W
R3012	401 027 0309	CARBON 47K JA 1/6W
R3013	401 026 1307	CARBON 27K JA 1/6W
R3014	401 025 8208	CARBON 22K JA 1/6W
R3015	401 027 5908	CARBON 68K JA 1/6W
R3016	401 027 2600	CARBON 5.6K JA 1/6W
R3017	401 027 0309	CARBON 47K JA 1/6W
R3018	401 026 1307	CARBON 27K JA 1/6W
R3019	401 025 8208	CARBON 22K JA 1/6W
R3020	401 027 5908	CARBON 68K JA 1/6W
R3021	401 027 2600	CARBON 5.6K JA 1/6W
R3027	401 024 7004	CARBON 1K JA 1/6W
R3029	401 027 6905	CARBON 750 JA 1/6W
R3034	401 024 7004	CARBON 1K JA 1/6W
R3037	401 024 7004	CARBON 1K JA 1/6W
R3038	401 024 7004	CARBON 1K JA 1/6W
R3039	401 024 7400	CARBON 10K JA 1/6W
R3040	401 024 7004	CARBON 1K JA 1/6W
R3041	401 024 7004	CARBON 1K JA 1/6W
R3042	401 026 9907	CARBON 4.7K JA 1/6W
R3043	401 024 7004	CARBON 1K JA 1/6W
R3044	401 024 7004	CARBON 1K JA 1/6W
R3045	401 024 7004	CARBON 1K JA 1/6W
R3046	401 024 7004	CARBON 1K JA 1/6W
R3047	401 026 4605	CARBON 33K JA 1/6W
R3048	401 026 4605	CARBON 33K JA 1/6W
R3049	401 024 7004	CARBON 1K JA 1/6W
R3052	401 024 7004	CARBON 1K JA 1/6W
R3053	401 024 7004	CARBON 1K JA 1/6W
R3054	401 024 7004	CARBON 1K JA 1/6W
R3055	401 024 7004	CARBON 1K JA 1/6W
R3056	401 024 7004	CARBON 1K JA 1/6W
R3058	401 024 7400	CARBON 10K JA 1/6W
R3062	401 024 7004	CARBON 1K JA 1/6W
R3063	401 024 7004	CARBON 1K JA 1/6W
R3064	401 024 7004	CARBON 1K JA 1/6W
R3065	401 024 7400	CARBON 10K JA 1/6W
R3066	401 024 7400	CARBON 10K JA 1/6W
R3070	401 024 7400	CARBON 10K JA 1/6W
R3071	401 024 7400	CARBON 10K JA 1/6W
R3072	401 024 7004	CARBON 1K JA 1/6W
R3073	401 024 7004	CARBON 1K JA 1/6W
R3074	401 024 7004	CARBON 1K JA 1/6W
R3075	401 024 7400	CARBON 10K JA 1/6W
R3076	401 024 7400	CARBON 10K JA 1/6W
R3077	401 024 7004	CARBON 1K JA 1/6W
R3078	401 026 4605	CARBON 33K JA 1/6W
R3079	401 026 4605	CARBON 33K JA 1/6W
R3080	401 027 0309	CARBON 47K JA 1/6W
R3083	401 026 3202	CARBON 30K JA 1/6W
R3084	401 026 3202	CARBON 30K JA 1/6W
R3085	401 027 5502	CARBON 6.8K JA 1/6W
R3086	401 025 0004	CARBON 120K JA 1/6W
R3087	401 024 7004	CARBON 1K JA 1/6W
R3088	401 025 1605	CARBON 1.5K JA 1/6W
R3089	401 024 7004	CARBON 1K JA 1/6W
R3090	401 024 7004	CARBON 1K JA 1/6W
R3091	401 024 7004	CARBON 1K JA 1/6W
R3092	401 024 7400	CARBON 10K JA 1/6W
R3093	401 024 7400	CARBON 10K JA 1/6W
R3095	401 024 7400	CARBON 10K JA 1/6W
R3104	401 027 5502	CARBON 6.8K JA 1/6W
R3105	401 025 8208	CARBON 22K JA 1/6W
R3107	401 024 7400	CARBON 10K JA 1/6W
R3108	401 026 7002	CARBON 3.9K JA 1/6W
R3112	401 024 8001	CARBON 1M JA 1/6W
R3114	401 024 7400	CARBON 10K JA 1/6W
R3115	401 024 7400	CARBON 10K JA 1/6W
R3122	401 024 7400	CARBON 10K JA 1/6W
R3151	402 036 4401	FUSIBLE RES 3.3 JA 1/2W
R3164	401 024 7400	CARBON 10K JA 1/6W
R3167	401 026 9907	CARBON 4.7K JA 1/6W
R3168	401 025 8208	CARBON 22K JA 1/6W
R3169	401 024 7400	CARBON 10K JA 1/6W
R3170	401 024 7707	CARBON 100K JA 1/6W
R3172	401 026 9907	CARBON 4.7K JA 1/6W
R3178	401 024 7004	CARBON 1K JA 1/6W
R3179	401 024 7004	CARBON 1K JA 1/6W
R3180	401 024 7004	CARBON 1K JA 1/6W
R3188	401 024 7400	CARBON 10K JA 1/6W
R3190	401 024 7004	CARBON 1K JA 1/6W
R3192	401 024 7004	CARBON 1K JA 1/6W
R3193	401 024 7004	CARBON 1K JA 1/6W
R3194	401 024 7004	CARBON 1K JA 1/6W
R3195	401 024 7004	CARBON 1K JA 1/6W
R3196	401 024 7004	CARBON 1K JA 1/6W
R3197	401 024 7004	CARBON 1K JA 1/6W
R3198	401 024 7004	CARBON 1K JA 1/6W
		(MISCELLANEOUS)
X3001	4–266V–02900	CERAMIC RESONATOR 8MHZ
or	4–266V–03200	CERAMIC RESONATOR 8MHZ
X3002	4–266V–02800	CERAMIC RESONATOR 5MHZ
or	4–266V–03100	CERAMIC RESONATOR 5MHZ
X3003	4–266V–01100	CERAMIC RESONATOR 4MHZ

SY-1 BOARD (SERVO)
NO.143-0-233V-64422

Location	Part No.	Description
		(COMPOSITE)
B4001	405 063 9104	TR DTA144EL-TL2
B4002	405 063 9708	TR DTC144EL-TL2
B4003	405 063 9708	TR DTC144EL-TL2
		(CAPACITORS)
C4001	403 001 7403	CERAMIC 4700PF K 16V
C4002	403 001 7403	CERAMIC 4700PF K 16V
C4003	403 001 1609	CERAMIC 0.01MF K 16V
C4004	403 041 9603	ELECT 10MF M 16V
C4005	403 062 7008	POLYESTER 0.056MF K 50V
C4006	403 062 7008	POLYESTER 0.056MF K 50V
C4007	403 121 9509	CERAMIC 0.1MF Z 50V
C4008	403 039 3101	ELECT 47MF M 6.3V
C4009	403 001 1609	CERAMIC 0.01MF K 16V
C4010	403 049 1005	ELECT 1MF M 50V
C4011	403 049 1005	ELECT 1MF M 50V
C4012	403 071 6207	CERAMIC 220PF K 50V
C4013	403 041 9603	ELECT 10MF M 16V
C4014	403 049 1005	ELECT 1MF M 50V
C4015	403 071 6207	CERAMIC 220PF K 50V
C4016	403 001 1609	CERAMIC 0.01MF K 16V
C4017	403 001 1609	CERAMIC 0.01MF K 16V
C4018	403 044 7002	ELECT 10MF M 25V
C4019	403 044 7002	ELECT 10MF M 25V
C4020	403 001 1609	CERAMIC 0.01MF K 16V
C4021	403 001 8806	CERAMIC 6800PF K 16V

Location	Part No.	Description
C4022	403 001 8806	CERAMIC 6800PF K 16V
C4023	403 059 6007	POLYESTER 0.022MF K 50V
C4024	403 059 6007	POLYESTER 0.022MF K 50V
C4025	403 061 8501	POLYESTER 4700PF K 50V
C4026	403 071 6207	CERAMIC 220PF K 50V
C4027	403 069 1207	CERAMIC 1000PF K 50V
C4028	403 060 8304	POLYESTER 0.033MF K 50V
C4029	403 003 2802	CERAMIC 0.022MF K 25V
C4030	403 004 0500	CERAMIC 0.047MF K 25V
C4031	403 049 1005	ELECT 1MF M 50V
C4032	403 001 1609	CERAMIC 0.01MF K 16V
C4033	403 069 1207	CERAMIC 1000PF K 50V
C4034	403 041 9603	ELECT 10MF M 16V
C4035	403 001 1609	CERAMIC 0.01MF K 16V
C4036	403 001 1609	CERAMIC 0.01MF K 16V
C4037	403 086 0405	NP-ELECT 4.7MF M 25V
C4038	403 060 6508	POLYESTER 3300PF K 50V
C4039	403 057 0502	POLYESTER 0.01MF K 50V
C4040	403 001 1609	CERAMIC 0.01MF K 16V
C4041	403 086 0405	NP-ELECT 4.7MF M 25V
C4042	403 040 2308	ELECT 22MF M 10V
C4043	403 086 0405	NP-ELECT 4.7MF M 25V
C4044	403 041 9603	ELECT 10MF M 16V
C4045	403 040 2308	ELECT 22MF M 10V
C4046	403 039 6102	ELECT 10MF M 10V
C4047	403 059 6007	POLYESTER 0.022MF K 50V
C4048	403 069 1207	CERAMIC 1000PF K 50V
C4049	403 121 9509	CERAMIC 0.1MF Z 50V
C4050	403 039 3101	ELECT 47MF M 6.3V
C4051	403 001 5102	CERAMIC 2200PF M 16V
C4052	403 044 7002	ELECT 10MF M 25V
or	403 090 4307	TA-SOLID 10MF M 10V
C4053	403 001 2903	CERAMIC 0.1MF M 16V
or	403 121 9509	CERAMIC 0.1MF Z 50V
		(DIODES)
D4001	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D4002	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D4004	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D4005	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D4006	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D4007	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D4008	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D4009	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D4010	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D4011	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D4012	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D4013	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D4014	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D4015	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D4018	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
		(INTEGRATED CIRCUITS)
IC4001	409 134 1103	IC LC7413-8046
IC4002	409 114 4100	IC LA7116
IC4003	409 133 1203	IC LA7120
IC4004	409 002 2904	IC BA236

Location	Part No.	Description
		(TRANSISTORS)
Q4001	405 057 6201	TR 2SC4038-Q-TL2
or	405 057 6409	TR 2SC4038-R-TL2
		(RESISTORS)
R4001	401 024 7004	CARBON 1K JA 1/6W
R4002	401 027 5908	CARBON 68K JA 1/6W
R4003	401 027 5908	CARBON 68K JA 1/6W
R4004	401 027 0507	CARBON 470K JA 1/6W
R4005	401 026 4902	CARBON 330K JA 1/6W
R4006	401 027 5908	CARBON 68K JA 1/6W
R4007	401 024 7400	CARBON 10K JA 1/6W
R4008	401 025 8703	CARBON 220K JA 1/6W
R4009	401 024 7004	CARBON 1K JA 1/6W
R4010	401 024 7400	CARBON 10K JA 1/6W
R4011	401 024 7400	CARBON 10K JA 1/6W
R4012	401 024 7400	CARBON 10K JA 1/6W
R4013	401 024 7400	CARBON 10K JA 1/6W
R4014	401 024 7400	CARBON 10K JA 1/6W
R4015	401 024 7400	CARBON 10K JA 1/6W
R4016	401 024 7400	CARBON 10K JA 1/6W
R4017	401 025 7805	CARBON 2.2K JA 1/6W
R4018	401 024 7004	CARBON 1K JA 1/6W
R4019	401 024 7707	CARBON 100K JA 1/6W
R4020	401 024 7400	CARBON 10K JA 1/6W
R4021	401 024 7004	CARBON 1K JA 1/6W
R4022	401 024 7707	CARBON 100K JA 1/6W
R4023	401 024 7400	CARBON 10K JA 1/6W
R4024	401 024 7004	CARBON 1K JA 1/6W
R4025	401 026 4605	CARBON 33K JA 1/6W
R4026	401 027 6103	CARBON 680K JA 1/6W
R4027	401 024 7707	CARBON 100K JA 1/6W
R4028	401 024 7707	CARBON 100K JA 1/6W
R4029	401 025 2305	CARBON 150K JA 1/6W
R4030	401 026 1307	CARBON 27K JA 1/6W
R4031	401 026 1307	CARBON 27K JA 1/6W
R4032	401 026 4308	CARBON 3.3K JA 1/6W
R4033	401 024 7400	CARBON 10K JA 1/6W
R4034	401 025 8208	CARBON 22K JA 1/6W
R4035	401 024 7004	CARBON 1K JA 1/6W
R4036	401 027 0309	CARBON 47K JA 1/6W
R4037	401 024 7004	CARBON 1K JA 1/6W
R4038	401 024 7004	CARBON 1K JA 1/6W
R4039	401 024 6700	CARBON 100 JA 1/6W
R4040	401 025 2305	CARBON 150K JA 1/6W
R4043	401 024 7400	CARBON 10K JA 1/6W
R4044	401 024 7400	CARBON 10K JA 1/6W
R4045	401 025 8703	CARBON 220K JA 1/6W
R4046	401 025 4903	CARBON 180K JA 1/6W
R4047	401 087 4101	MT-FILM 4.7K FD 1/6W
R4048	401 087 4101	MT-FILM 4.7K FD 1/6W
R4049	401 024 7707	CARBON 100K JA 1/6W
R4050	401 024 7004	CARBON 1K JA 1/6W
R4051	401 026 3905	CARBON 330 JA 1/6W
R4052	401 024 7707	CARBON 100K JA 1/6W
R4053	401 024 7004	CARBON 1K JA 1/6W
R4054	401 024 7400	CARBON 10K JA 1/6W
R4055	401 025 8703	CARBON 220K JA 1/6W
R4056	401 024 7400	CARBON 10K JA 1/6W
R4057	401 026 4308	CARBON 3.3K JA 1/6W
R4058	401 026 1604	CARBON 270K JA 1/6W
R4059	401 025 8208	CARBON 22K JA 1/6W
R4060	401 024 7400	CARBON 10K JA 1/6W
R4061	401 025 4903	CARBON 180K JA 1/6W
R4062	401 026 4605	CARBON 33K JA 1/6W
R4063	401 024 7400	CARBON 10K JA 1/6W
R4064	401 026 4605	CARBON 33K JA 1/6W
R4065	401 024 7400	CARBON 10K JA 1/6W
R4066	401 024 7707	CARBON 100K JA 1/6W
R4067	401 024 7707	CARBON 100K JA 1/6W
R4068	401 027 6905	CARBON 750 JA 1/6W
R4069	401 027 7704	CARBON 750K JA 1/6W
R4070	401 024 7004	CARBON 1K JA 1/6W
R4071	401 024 7004	CARBON 1K JA 1/6W

Location	Part No.	Description
R4072	401 024 7004	CARBON 1K JA 1/6W
R4073	401 027 0309	CARBON 47K JA 1/6W
R4074	401 024 7004	CARBON 1K JA 1/6W
R4075	401 024 7004	CARBON 1K JA 1/6W
R4076	401 024 7004	CARBON 1K JA 1/6W
R4077	401 024 7004	CARBON 1K JA 1/6W
R4078	401 024 7004	CARBON 1K JA 1/6W
R4079	401 024 7004	CARBON 1K JA 1/6W
R4080	401 024 7004	CARBON 1K JA 1/6W
R4081	401 024 7400	CARBON 10K JA 1/6W
R4082	401 024 7004	CARBON 1K JA 1/6W
R4083	401 027 0507	CARBON 470K JA 1/6W
R4084	401 026 9907	CARBON 4.7K JA 1/6W
R4085	401 024 7400	CARBON 10K JA 1/6W
R4086	401 024 7400	CARBON 10K JA 1/6W
R4087	401 024 7400	CARBON 10K JA 1/6W
R4088	401 027 9302	CARBON 820K JA 1/6W
R4100	401 024 7004	CARBON 1K JA 1/6W
		(SEMI VARIABLE RESISTORS)
SVR4001	4–222V–70212	SEMI VR 200K OHM
SVR4002	4–222V–70212	SEMI VR 200K OHM
SVR4003	4–222V–70214	SEMI VR 500K OHM
SVR4005	4–222V–70214	SEMI VR 500K OHM
SVR4006	4–222V–70214	SEMI VR 500K OHM

PW-1 BOARD (POWER SUPPLY)
NO.143-0-233V-63251

Location	Part No.	Description
	143-2-368T-12001	HEAT SINK,IC5001
	143-2-368T-12100	HEAT SINK,IC5101
	143-2-310T-10100	BRACKET,IC5001
	143-2-383T-03100	FUSE HOLDER
		(CAPACITORS)
C5001	⚠404 032 5703	MT-COMPO 0.1MF M 250V
C5002	⚠404 029 4108	MT-COMPO 0.047MF M 250V
C5003	404 036 2500	ELECT 82MF M 400V
or	404 036 2609	ELECT 82MF M 400V
C5004	403 137 4604	MT-POLYEST 0.047MF K 630V
C5005	403 145 7901	CERAMIC 100PF K 2K
C5020	⚠404 032 6304	CERAMIC 2200PF M 400V
C5021	⚠404 033 2206	CERAMIC 2200PF M 4K
C5022	⚠404 034 7200	CERAMIC 1000PF M 400V
or	⚠404 034 6302	CERAMIC 1000PF K 400V
C5023	⚠404 032 8506	CERAMIC 1000PF M 400V
or	⚠404 033 2107	CERAMIC 1000PF M 4K
C5101	403 146 6903	ELECT 2700MF M 16V
C5102	403 146 7009	ELECT 1000MF M 16V
C5103	403 146 7108	ELECT 3300MF M 10V
C5104	403 121 6607	ELECT 47MF M 50V
C5105	403 121 6607	ELECT 47MF M 50V
C5106	403 146 7504	ELECT 100MF M 25V
C5107	403 144 6905	ELECT 47MF M 25V
C5108	403 137 4901	ELECT 47MF M 16V
C5109	403 137 4901	ELECT 47MF M 16V
C5120	403 057 2902	POLYESTER 0.1MF K 50V
C5121	403 057 0502	POLYESTER 0.01MF K 50V
C5122	403 069 0705	CERAMIC 1000PF K 50V
		(DIODES)
D5001	407 091 6902	DIODE ERA38-04-V5
or	407 075 5303	DIODE ERA38-06-V5
D5002	407 053 6704	ZENER DIODE MTZ5.6B-T-77
D5020	407 097 0300	PHOTO COUPLE PC113A
D5101	407 097 5800	DIODE FMU-G2YXS
D5102	407 102 5603	DIODE RU4YX
D5103	407 091 6902	DIODE ERA38-04
or	407 075 5303	DIODE ERA38-06
D5104	407 091 6902	DIODE ERA38-04
or	407 075 5303	DIODE ERA38-06
D5105	407 091 6902	DIODE ERA38-04
or	407 075 5303	DIODE ERA38-06
D5106	407 091 6902	DIODE ERA38-04
or	407 075 5303	DIODE ERA38-06
D5107	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D5108	407 053 7701	ZENER DIODE MTZ6.8C-T-77
D5109	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D5110	407 078 1104	ZENER DIODE MTZ33A-T-77
D5112	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
D5113	407 053 6209	ZENER DIODE MTZ5.1A
D5114	407 053 2706	ZENER DIODE MTZ10C-T-77
D5115	407 053 6704	ZENER DIODE MTZ5.6B-T-77
D5116	407 007 9904	DIODE GMA01
or	407 012 4406	DIODE 1SS133
		(INTEGRATED CIRCUITS)
IC5001	409 131 1205	IC MA1050(F4001)
IC5101	409 131 0208	IC STK5330
IC5102	409 054 1306	IC TL431CLPB
		(COILS)
L5001	4–252V–14100	LF CHOKE
L5002	4–252V–14100	LF CHOKE
L5101	4–255F–10105	CHOKE COIL 22UH K
L5103	4–253V–88713	HF CHOKE 10UH
L5104	4–253V–89201	HF CHOKE 1.0UH K
		(TRANSISTORS)
Q5101	405 006 6702	TR 2SA984-F
Q5102	405 006 6702	TR 2SA984-F
Q5103	405 007 3106	TR 2SB544-F-MP
Q5104	405 043 6000	TR 2SC3807
Q5105	405 022 7202	TR 2SD1666-S
or	405 022 7004	TR 2SD1666-R
		(RESISTORS)
R5001	401 100 1209	OXIDE-MT 68K JA 2W
R5002	401 089 9302	CARBON 330K JA 1/2W
R5004	401 006 9903	CARBON 100 JA 1/2W
R5005	401 006 9903	CARBON 100 JA 1/2W
R5006	401 010 2402	CARBON 47 JA 1/2W
R5007	401 010 2402	CARBON 47 JA 1/2W
R5008	⚠402 023 2106	FUSIBLE RES 47 JA 1/4W
R5102	⚠402 023 2106	FUSIBLE RES 47 JA 1/4W
R5103	⚠402 035 5706	FUSIBLE RES 3.9 JA 1/4W
R5104	401 016 3700	CARBON 2.2K JA 1/4W
R5105	401 018 2701	CARBON 330 JA 1/4W
R5106	401 103 5402	MT-FILM 6.34K FD 1/6W
R5107	401 096 4901	MT-FILM 1.5K FD 1/6W
R5108	401 020 0702	CARBON 470 JA 1/4W
R5109	401 021 2903	CARBON 5.6K JA 1/4W
R5110	401 105 3701	CARBON 18K JA 1/4W
R5111	401 021 8905	CARBON 6.2K JA 1/4W
R5112	401 013 6308	CARBON 12K JA 1/4W
R5113	401 016 3700	CARBON 2.2K JA 1/4W
R5114	401 012 6903	CARBON 10K JA 1/4W
R5115	401 021 8905	CARBON 6.2K JA 1/4W
R5116	401 016 3700	CARBON 2.2K JA 1/4W
R5117	401 019 7200	CARBON 430 JA 1/4W
R5120	401 023 1607	CARBON 820 JA 1/4W
R5121	401 014 2804	CARBON 150 JA 1/4W
R5122	401 014 2804	CARBON 150 JA 1/4W
		(TRANSFORMER)
T5001	⚠ 4–289V–00501	CONVERTOR TRANS.
		(MISCELLANEOUS)
F5001	⚠ 4–234V–17612	FUSE 1.6A
F5102	⚠ 4–234V–18316	FUSE 1.6A 250V

Location	Part No.	Description
F5103	⚠ 4–234V–18314	FUSE 1A 250V

PW-2 BOARD (POWER SUPPLY)
NO.143-0-233V-63351

Location	Part No.	Description
		(CAPACITORS)
C5201	⚠403 076 6707	CERAMIC 1000PF K 1K
C5202	⚠403 076 6707	CERAMIC 1000PF K 1K
		(DIODE)
D5201	407 091 7107	DIODE LB156
		(RESISTORS)
R5201	401 080 0605	WIRE WOUND 2.2 KA 2W
R5202	⚠401 001 8000	SOLID 2.7M MA 1/2W
or	⚠401 001 7904	SOLID 2.7M KA 1/2W

TN-1 BOARD (TUNER IF)
NO.143-0-233V-48100

Location	Part No.	Description
		(CAPACITORS)
C6001	403 026 3008	CERAMIC 47PF J 50V
C6002	403 019 2407	CERAMIC 24PF J 50V
C6003	403 030 7207	CERAMIC 68PF J 50V
C6004	403 069 9500	CERAMIC 0.01MF Z 50V
C6005	403 069 9500	CERAMIC 0.01MF Z 50V
C6006	403 069 9500	CERAMIC 0.01MF Z 50V
C6007	403 048 6902	ELECT 0.47MF M 50V
C6008	403 019 2407	CERAMIC 24PF J 50V
C6009	403 069 9500	CERAMIC 0.01MF Z 50V
C6010	403 050 0509	ELECT 2.2MF M 50V
C6011	403 069 9500	CERAMIC 0.01MF Z 50V
C6012	403 042 3006	ELECT 100MF M 16V
C6013	403 014 3409	CERAMIC 18PF J 50V
C6014	403 116 8005	CERAMIC 82PF J 50V
C6015	403 109 9200	CERAMIC 27PF J 50V
C6016	403 049 0800	ELECT 1MF M 50V
C6017	403 069 9500	CERAMIC 0.01MF Z 50V
C6018	403 042 3006	ELECT 100MF M 16V
C6019	403 048 6902	ELECT 0.47MF M 50V
C6020	403 012 7003	CERAMIC 15PF J 50V
C6021	403 030 7207	CERAMIC 68PF J 50V
C6022	403 021 0200	CERAMIC 3PF C 50V
C6023	403 033 4708	CERAMIC 82PF J 50V
C6024	403 018 0701	CERAMIC 22PF J 50V
C6025	403 069 9500	CERAMIC 0.01MF Z 50V
C6026	403 069 9500	CERAMIC 0.01MF Z 50V
C6027	403 069 9500	CERAMIC 0.01MF Z 50V
C6028	403 024 2201	CERAMIC 39PF J 50V
C6029	403 069 9500	CERAMIC 0.01MF Z 50V
C6030	403 018 0602	CERAMIC 22PF J 50V
C6031	403 069 9500	CERAMIC 0.01MF Z 50V
C6032	403 069 9500	CERAMIC 0.01MF Z 50V
C6033	403 069 9500	CERAMIC 0.01MF Z 50V
C6034	403 068 0409	CERAMIC 0.1MF Z 25V
C6035	403 068 0409	CERAMIC 0.1MF Z 25V
C6036	403 047 0604	ELECT 4.7MF M 25V
C6037	403 042 3006	ELECT 100MF M 16V
C6038	403 069 9500	CERAMIC 0.01MF Z 50V
C6040	403 069 1702	CERAMIC 1000PF K 50V
C6041	403 068 0409	CERAMIC 0.1MF Z 25V
C6050	403 069 9500	CERAMIC 0.01MF Z 50V
		(DIODE)
D6001	407 050 7704	ZENER DIODE GZA9.1Y
		(INTEGRATED CIRCUITS)
IC6001	409 036 0105	IC M51366SP
IC6002	409 056 6804	IC UPC1391HA
		(COILS)
L6001	4–253V–74326	HF CHOKE 33UH K
L6002	4–253V–74320	HF CHOKE 10UH K
		(TRANSISTORS)
Q6001	405 014 0303	TR 2SC2351-T1B-R2
Q6002	405 004 3901	TR 2SA608-E-NP-AA
or	405 004 4502	TR 2SA608-F-NP-AA
Q6003	405 015 8308	TR 2SC2812-L4-TB
or	405 015 8407	TR 2SC2812-L5-TB
		(RESISTORS)
R6001	401 037 5400	MT-GLAZE 1K JA 1/10W
R6002	401 037 5400	MT-GLAZE 1K JA 1/10W
R6003	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R6004	401 038 0503	MT-GLAZE 22 JA 1/10W
R6005	401 038 0602	MT-GLAZE 220 JA 1/10W
R6006	401 037 5202	MT-GLAZE 100 JA 1/10W
R6007	401 039 0601	MT-GLAZE 820K JA 1/10W
R6008	401 038 5102	MT-GLAZE 3.9K JA 1/10W
R6009	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R6010	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R6011	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R6012	401 038 2101	MT-GLAZE 2.7K JA 1/10W
R6013	401 038 9209	MT-GLAZE 6.8K JA 1/10W
R6014	401 038 7809	MT-GLAZE 56K JA 1/10W
R6015	401 037 6704	MT-GLAZE 1.2K JA 1/10W
R6016	401 038 2903	MT-GLAZE 300 JA 1/10W
R6017	401 037 9200	MT-GLAZE 1.8K JA 1/10W
R6018	401 039 0304	MT-GLAZE 820 JA 1/10W
R6019	401 038 6208	MT-GLAZE 47 JA 1/10W
R6020	401 038 6505	MT-GLAZE 47K JA 1/10W
R6021	401 037 5400	MT-GLAZE 1K JA 1/10W
R6022	401 038 3504	MT-GLAZE 330 JA 1/10W
R6023	401 037 5400	MT-GLAZE 1K JA 1/10W
R6024	401 022 0700	CARBON 68 JA 1/4W
R6025	401 020 0702	CARBON 470 JA 1/4W
R6026	401 037 5202	MT-GLAZE 100 JA 1/10W
R6027	402 023 4506	FUSIBLE RES 27 JA 1/2W
R6029	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R6030	401 039 0403	MT-GLAZE 8.2K JA 1/10W
R6031	401 038 7205	MT-GLAZE 5.1K JA 1/10W
R6032	401 038 3702	MT-GLAZE 33K JA 1/10W
R6033	401 038 6208	MT-GLAZE 47 JA 1/10W
R6034	401 038 6307	MT-GLAZE 470 JA 1/10W
R6035	401 037 5400	MT-GLAZE 1K JA 1/10W
R6036	401 038 3504	MT-GLAZE 330 JA 1/10W
R6037	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R6038	401 038 1203	MT-GLAZE 240 JA 1/10W
R6039	401 038 5003	MT-GLAZE 390 JA 1/10W
R6040	401 038 6307	MT-GLAZE 470 JA 1/10W
R6041	401 038 3504	MT-GLAZE 330 JA 1/10W
R6042	401 038 3504	MT-GLAZE 330 JA 1/10W
R6050	401 037 9309	MT-GLAZE 18K JA 1/10W
R6051	401 038 2309	MT-GLAZE 270K JA 1/10W
R6052	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R6053	401 038 2309	MT-GLAZE 270K JA 1/10W
R6055	401 038 5508	MT-GLAZE 4.7 JA 1/10W
R6069	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R6070	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R6071	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R6072	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R6073	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R6074	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R6075	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R6076	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R6077	401 037 5004	MT-GLAZE 0.000 ZA 1/10W

Location	Part No.	Description
R6078	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R6079	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
		(SEMI VARIABLE RESISTORS)
SVR6001	4–222V–68906	SEMI VR 1K OHM
or	4–222V–69003	SEMI VR 1K OHM
		(TRANSFORMERS)
T6001	4–256V–34400	IFT
T6002	4–256V–34300	IFT
T6003	4–256V–32800	IFT
T6004	4–256V–34800	IFT
T6005	4–256V–34900	IFT
T6006	4–256V–34900	IFT
		(MISCELLANEOUS)
X6001	4–953V–22300	FILTER
X6002	4–953V–02601	FILTER
X6003	4–953V–15500	FILTER
X6004	4–953V–15500	FILTER
X6005	4–953V–15700	FILTER
X6006	4–953V–15600	FILTER
X6007	4–953V–15600	FILTER
X6008	4–953V–15800	FILTER
X6009	4–953V–01701	FILTER

TN-2 BOARD (TUNING CONTROL)
NO.143-0-233V-49221

Location	Part No.	Description
	401 037 5004	MT-GLAZE 0.000 ZA 1/10W,J6101-6112
	401 035 4108	MT-GLAZE 0.000 ZA 1/8W,J6113-6134
		(COMPOSITE)
B6101	4–958V–00700	R-PACK 10K OHMX9
		(CAPACITORS)
C6102	403 041 9405	ELECT 10MF M 16V
C6103	403 041 9405	ELECT 10MF M 16V
C6104	403 048 4809	ELECT 0.33MF M 50V
C6106	403 049 4808	ELECT 10MF M 50V
C6107	403 038 6707	ELECT 220MF M 6.3V
C6108	403 050 3302	ELECT 22MF M 50V
C6109	403 050 0509	ELECT 2.2MF M 50V
C6110	403 009 5708	CERAMIC 100PF J 50V
C6111	403 009 5708	CERAMIC 100PF J 50V
C6112	403 069 1702	CERAMIC 1000PF K 50V
C6113	403 071 6504	CERAMIC 220PF K 50V
C6115	403 069 0705	CERAMIC 1000PF K 50V
C6116	403 069 1702	CERAMIC 1000PF K 50V
C6117	403 069 1702	CERAMIC 1000PF K 50V
C6118	403 018 0503	CERAMIC 22PF J 50V
C6119	403 018 0503	CERAMIC 22PF J 50V
C6120	403 067 6501	MT-COMPO 0.18MF J 50V
C6121	403 073 1200	CERAMIC 0.033MF K 50V
C6122	403 069 9500	CERAMIC 0.01MF Z 50V
C6125	403 069 9500	CERAMIC 0.01MF Z 50V
C6126	403 069 9500	CERAMIC 0.01MF Z 50V
C6127	403 069 9500	CERAMIC 0.01MF Z 50V
C6128	403 069 9500	CERAMIC 0.01MF Z 50V
C6129	403 069 1207	CERAMIC 1000PF K 50V
		(DIODES)
D6101	407 004 8009	DIODE DSB015-TB
D6102	407 004 8009	DIODE DSB015-TB
		(INTEGRATED CIRCUITS)
IC6101	410 028 7804	IC TMP47C231AN4973

Location	Part No.	Description
IC6102	409 119 0602	IC M58655P
IC6103	409 114 4308	IC LA7214
IC6104	409 119 2408	IC TD6358N
IC6105	409 057 5103	IC UPC574J
or	409 026 8203	IC L5631
		(COILS)
L6101	4–253V–74320	HF CHOKE 10UH K
L6102	4–253V–74320	HF CHOKE 10UH K
		(TRANSISTORS)
Q6101	405 068 0007	TR 2SA1362-GR-TE85L
Q6102	405 065 5708	TR FMS1-T98
Q6103	405 065 5708	TR FMS1-T98
Q6105	405 044 6009	TR 2SC3361-S5-TB
		(RESISTORS)
R6101	401 037 5608	MT-GLAZE 10K JA 1/10W
R6102	401 035 4900	MT-GLAZE 1K JA 1/8W
R6103	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R6104	401 037 5608	MT-GLAZE 10K JA 1/10W
R6105	401 037 5608	MT-GLAZE 10K JA 1/10W
R6106	401 037 5608	MT-GLAZE 10K JA 1/10W
R6107	401 037 5608	MT-GLAZE 10K JA 1/10W
R6108	401 037 5608	MT-GLAZE 10K JA 1/10W
R6109	401 037 5608	MT-GLAZE 10K JA 1/10W
R6110	401 038 3504	MT-GLAZE 330 JA 1/10W
R6111	401 038 3801	MT-GLAZE 330K JA 1/10W
R6112	401 038 2309	MT-GLAZE 270K JA 1/10W
R6113	401 037 6209	MT-GLAZE 11K JA 1/10W
R6114	401 037 8005	MT-GLAZE 15K JA 1/10W
R6115	401 038 6505	MT-GLAZE 47K JA 1/10W
R6116	401 038 6505	MT-GLAZE 47K JA 1/10W
R6117	401 038 6505	MT-GLAZE 47K JA 1/10W
R6118	401 038 6505	MT-GLAZE 47K JA 1/10W
R6122	401 038 6604	MT-GLAZE 470K JA 1/10W
R6123	401 038 5409	MT-GLAZE 390K JA 1/10W
R6124	401 035 4900	MT-GLAZE 1K JA 1/8W
R6125	401 037 5608	MT-GLAZE 10K JA 1/10W
		(MISCELLANEOUS)
X6101	4–266V–01100	CERAMIC RESONATOR 4MHZ
X6102	4–225V–26900	CRYSTAL 3200KHZ

TN-3 BOARD (CHANNEL SELECT)
NO.143-0-233V-65500

Location	Part No.	Description
	401 037 5004	MT-GLAZE 0.000 ZA 1/10W,J6153-6160
	401 037 5004	MT-GLAZE 0.000 ZA 1/10W,J6162-6173
		(COMPOSITE)
B6150	405 018 1900	TR 2SC3395-TB
B6151	405 018 2006	TR 2SC3396-TB
B6152	405 018 2402	TR 2SC3398-TB
B6153	405 018 1900	TR 2SC3395-TB
B6154	405 018 2006	TR 2SC3396-TB
		(CAPACITORS)
C6151	403 046 2104	ELECT 3.3MF M 25V
C6152	403 043 9601	ELECT 47MF M 16V
C6153	403 067 7805	MT-COMPO 0.47MF J 50V
C6154	403 067 7409	MT-COMPO 0.039MF J 50V
C6155	403 067 7409	MT-COMPO 0.039MF J 50V
C6156	403 067 7409	MT-COMPO 0.039MF J 50V
C6157	403 067 7409	MT-COMPO 0.039MF J 50V
C6158	403 069 9500	CERAMIC 0.01MF Z 50V
C6159	403 038 2006	ELECT 100MF M 6.3V

Location	Part No.	Description
C6160	403 042 3006	ELECT 100MF M 16V
C6161	403 069 9500	CERAMIC 0.01MF Z 50V
C6162	403 074 3104	CERAMIC 0.047MF Z 50V
C6163	403 047 0604	ELECT 4.7MF M 25V
C6164	403 074 3104	CERAMIC 0.047MF Z 50V
C6165	403 047 0604	ELECT 4.7MF M 25V
C6166	403 047 0604	ELECT 4.7MF M 25V
C6167	403 047 0604	ELECT 4.7MF M 25V
C6168	403 074 3104	CERAMIC 0.047MF Z 50V
C6169	403 069 9500	CERAMIC 0.01MF Z 50V
C6170	403 050 0509	ELECT 2.2MF M 50V
		(DIODE)
D6151	407 004 8009	DIODE DSB015-TB
		(INTEGRATED CIRCUIT)
IC6150	409 135 9108	IC TDA3803A
		(COIL)
L6150	4–253V–77700	HF CHOKE 54.7KHZ
		(TRANSISTORS)
Q6151	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q6152	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
		(RESISTORS)
R6152	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R6153	401 038 7809	MT-GLAZE 56K JA 1/10W
R6154	401 108 3007	MT-GLAZE 1M FD 1/10W
R6155	401 108 3205	MT-GLAZE 620K FD 1/10W
R6156	401 108 3304	MT-GLAZE 120K FD 1/10W
R6157	401 110 4603	MT-GLAZE 56K FD 1/10W
R6158	401 037 5400	MT-GLAZE 1K JA 1/10W
R6159	401 037 5400	MT-GLAZE 1K JA 1/10W
R6160	401 020 0702	CARBON 470 JA 1/4W
R6161	401 020 0702	CARBON 470 JA 1/4W
R6163	401 037 5400	MT-GLAZE 1K JA 1/10W
R6164	401 037 5400	MT-GLAZE 1K JA 1/10W
R6165	401 037 5608	MT-GLAZE 10K JA 1/10W
R6166	401 037 5608	MT-GLAZE 10K JA 1/10W
R6167	401 037 9309	MT-GLAZE 18K JA 1/10W
R6168	401 038 6505	MT-GLAZE 47K JA 1/10W
R6169	401 108 3106	MT-GLAZE 330K FD 1/10W
R6170	401 037 8005	MT-GLAZE 15K JA 1/10W
R6173	401 037 6803	MT-GLAZE 12K JA 1/10W
R6174	401 038 9209	MT-GLAZE 6.8K JA 1/10W
R6175	401 037 6803	MT-GLAZE 12K JA 1/10W
R6176	401 038 9209	MT-GLAZE 6.8K JA 1/10W
		(SEMI VARIABLE RESISTORS)
SVR6150	4–222V–70403	SEMI VR 2K OHM
SVR6151	4–222V–70401	SEMI VR 500 OHM
SVR6152	4–222V–65410	SEMI VR 20K OHM

TM-1 BOARD (VPS & DIGITAL CIRCUIT)
NO.143-0-233V-61923(VHR-D700EX)
NO.143-0-233V-61900(VHR-D700G)

Location	Part No.	Description
		(CAPACITORS)
C7110	403 043 9601	ELECT 47MF M 16V
C7111	403 001 1906	CERAMIC 0.01MF M 16V
C7112	403 012 5900	CERAMIC 15PF J 50V
C7113	403 069 0705	CERAMIC 1000PF K 50V
C7114	403 073 7004	CERAMIC 470PF K 50V
C7115	403 059 6502	POLYESTER 0.022MF K 50V
C7116	403 072 4707	CERAMIC 270PF K 50V
C7117	403 068 9402	CERAMIC 100PF K 50V
C7118	403 012 5900	CERAMIC 15PF J 50V
C7119	403 009 3001	CERAMIC 100PF J 50V
C7120	403 001 1906	CERAMIC 0.01MF M 16V
C7121	403 067 8208	MT-COMPO 0.068MF J 50V
C7122	403 067 7805	MT-COMPO 0.47MF J 50V
C7123	403 001 1906	CERAMIC 0.01MF M 16V
C7124	403 043 9601	ELECT 47MF M 16V
C7125	403 043 9601	ELECT 47MF M 16V
C7126	403 001 1906	CERAMIC 0.01MF M 16V
C7127	403 022 7703	CERAMIC 33PF J 50V
C7128	403 022 7703	CERAMIC 33PF J 50V
C7130	403 001 1906	CERAMIC 0.01MF M 16V
		(INTEGRATED CIRCUITS)
IC7103	409 126 7700	IC SDA5233 (VHR-D700G ONLY)
IC7104	409 041 6604	IC SDA5640(VHR-D700G ONLY)
IC7105	409 141 7303	IC LC6543H-3600
		(COIL)
L7102	4–253V–88613	HF CHOKE 10UH J
		(RESISTORS)
R7121	401 026 4605	CARBON 33K JA 1/6W
R7122	401 024 7004	CARBON 1K JA 1/6W
R7123	401 024 7004	CARBON 1K JA 1/6W
R7124	401 024 7004	CARBON 1K JA 1/6W
R7125	401 024 7004	CARBON 1K JA 1/6W
R7126	401 024 7004	CARBON 1K JA 1/6W
R7127	401 024 7004	CARBON 1K JA 1/6W
R7128	401 024 7004	CARBON 1K JA 1/6W
R7129	401 024 7004	CARBON 1K JA 1/6W
R7130	401 024 7004	CARBON 1K JA 1/6W
R7131	401 024 7004	CARBON 1K JA 1/6W
R7132	401 024 7004	CARBON 1K JA 1/6W
R7133	401 024 7004	CARBON 1K JA 1/6W
R7136	401 024 7004	CARBON 1K JA 1/6W
R7137	401 024 7004	CARBON 1K JA 1/6W
R7138	401 024 7004	CARBON 1K JA 1/6W
R7139	401 024 7004	CARBON 1K JA 1/6W
R7140	401 024 7004	CARBON 1K JA 1/6W
R7141	401 024 7004	CARBON 1K JA 1/6W
R7142	401 024 7004	CARBON 1K JA 1/6W
R7143	401 024 7004	CARBON 1K JA 1/6W
R7144	401 024 7004	CARBON 1K JA 1/6W
		(MISCELLANEOUS)
X7102	4–225V–24600	CRYSTAL 10MHZ
X7103	4–266V–01100	CERAMIC RESONATOR 4MHZ

TM-4 BOARD (DISPLAY & TIMER)
NO.143-0-233V-61823

Location	Part No.	Description
	143–2–386T–03900	BRACKET,DIGITAL DISPLAY
		(COMPOSITE)
B7401	4–956V–10304	R-PACK 10K OHMX4 J
		(CAPACITORS)
C7401	403 001 1906	CERAMIC 0.01MF M 16V
C7402	403 016 7603	CERAMIC 2.7PF C 50V
C7403	403 017 9705	CERAMIC 22PF J 50V
C7404	403 017 9705	CERAMIC 22PF J 50V
C7405	403 001 1906	CERAMIC 0.01MF M 16V
C7406	403 068 9402	CERAMIC 100PF K 50V
C7407	403 068 9402	CERAMIC 100PF K 50V
C7408	403 068 9402	CERAMIC 100PF K 50V
C7409	403 068 9402	CERAMIC 100PF K 50V
C7410	403 068 9402	CERAMIC 100PF K 50V
C7411	403 068 9402	CERAMIC 100PF K 50V

Location	Part No.	Description
C7412	403 121 9509	CERAMIC 0.1MF Z 50V
C7413	403 121 9509	CERAMIC 0.1MF Z 50V
C7414	403 121 9509	CERAMIC 0.1MF Z 50V
C7415	403 048 7107	ELECT 0.47MF M 50V
C7416	403 042 8407	ELECT 22MF M 16V
C7419	403 037 8504	DL-ELECT 0.047F Z 5.5V
or	403 037 8603	DL-ELECT 0.047F Z 5.5V
C7420	403 068 9402	CERAMIC 100PF K 50V
		(DIODES)
D7401	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7402	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7403	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7404	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7405	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7406	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7407	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7408	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7409	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7411	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7412	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7413	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7414	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7415	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7416	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7417	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7418	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7419	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7420	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
D7424	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
		(INTEGRATED CIRCUITS)
IC7401	409 135 9009	IC M50957-622SP
IC7402	409 032 3308	IC MN1280-L
		(COIL)
L7402	4–253V–74314	HF CHOKE 3.3UH K
		(RESISTORS)
R7401	401 012 9201	CARBON 1M JA 1/4W
R7402	401 012 9904	CARBON 10M JA 1/4W
R7403	401 018 5702	CARBON 330K JA 1/4W
R7404	401 012 5609	CARBON 1K JA 1/4W
R7405	401 012 5609	CARBON 1K JA 1/4W
R7406	401 012 6903	CARBON 10K JA 1/4W
R7407	401 012 5609	CARBON 1K JA 1/4W
R7408	401 012 5609	CARBON 1K JA 1/4W
R7409	401 012 5609	CARBON 1K JA 1/4W
R7410	401 012 8006	CARBON 100K JA 1/4W
R7411	401 012 5609	CARBON 1K JA 1/4W
R7412	401 012 8006	CARBON 100K JA 1/4W
R7413	401 012 5609	CARBON 1K JA 1/4W
R7414	401 012 5609	CARBON 1K JA 1/4W
R7415	401 012 5609	CARBON 1K JA 1/4W

Location	Part No.	Description
R7416	401 012 5609	CARBON 1K JA 1/4W
R7417	401 012 5609	CARBON 1K JA 1/4W
R7418	401 020 0702	CARBON 470 JA 1/4W
R7419	401 016 4707	CARBON 22K JA 1/4W
R7420	401 012 6903	CARBON 10K JA 1/4W
R7421	401 012 5609	CARBON 1K JA 1/4W
R7422	401 012 5609	CARBON 1K JA 1/4W
R7424	401 012 5609	CARBON 1K JA 1/4W
R7425	401 018 4804	CARBON 33K JA 1/4W
R7426	401 012 5609	CARBON 1K JA 1/4W
R7427	401 012 5609	CARBON 1K JA 1/4W
R7428	401 012 5609	CARBON 1K JA 1/4W
R7429	401 012 5609	CARBON 1K JA 1/4W
R7430	401 012 4404	CARBON 100 JA 1/4W
R7432	401 017 0708	CARBON 270 JA 1/4W
R7440	401 012 6903	CARBON 10K JA 1/4W
R7441	401 012 6903	CARBON 10K JA 1/4W
R7442	401 012 5609	CARBON 1K JA 1/4W
R7443	401 012 6903	CARBON 10K JA 1/4W
R7444	401 012 6903	CARBON 10K JA 1/4W
R7445	401 012 6903	CARBON 10K JA 1/4W
R7446	401 019 1802	CARBON 3.9K JA 1/4W
		(MISCELLANEOUS)
A7401	4–985V–06000	DIGITAL DISPLAY
A7402	4–193V–00201	REMOTE CONTROL RECEIVER
CT7401	4–224V–12700	TRIMMER
X7401	4–225V–23900	CRYSTAL 4.19MHZ
or	4–225V–24100	CRYSTAL 4.19MHZ
X7402	4–225V–23100	CRYSTAL 32KHZ
or	4–225V–24200	CRYSTAL 32KHZ
or	4–225V–26100	CRYSTAL 32KHZ

TM-5 BOARD (SWITCH & VR)
NO.143-0-233V-51403

Location	Part No.	Description
	143–2–210T–12500	BRACKET
	143–2–210T–12400	BRACKET,AUDIO LEVEL METER
		(COMPOSITE)
B7001	4–222V–33600	VR 5K X 2 + 2K OHM
		(CAPACITORS)
C7001	403 069 1207	CERAMIC 1000PF K 50V
C7002	403 069 1207	CERAMIC 1000PF K 50V
C7003	403 069 1207	CERAMIC 1000PF K 50V
C7004	403 069 1207	CERAMIC 1000PF K 50V
C7005	403 038 2105	ELECT 100MF M 6.3V
		(DIODES)
D7001	407 097 0102	LED AA5525S
D7002	407 097 0102	LED AA5525S
D7003	407 097 0201	LED PR5505S
D7004	407 097 0201	LED PR5505S
D7005	407 097 0201	LED PR5505S
D7006	407 097 0201	LED PR5505S
D7007	407 097 0201	LED PR5505S
D7008	407 097 0201	LED PR5505S
D7009	407 097 0201	LED PR5505S
D7010	407 097 0201	LED PR5505S
D7013	407 007 9904	DIODE GMA01-BT
or	407 012 4406	DIODE 1SS133-T-77
		(RESISTORS)
R7001	401 012 5609	CARBON 1K JA 1/4W
R7002	401 012 5609	CARBON 1K JA 1/4W
R7003	401 012 6903	CARBON 10K JA 1/4W
R7004	401 012 6903	CARBON 10K JA 1/4W
R7005	401 012 6903	CARBON 10K JA 1/4W

Location	Part No.	Description
R7007	401 016 2505	CARBON 220 JA 1/4W
R7008	401 016 2505	CARBON 220 JA 1/4W
R7009	401 016 2505	CARBON 220 JA 1/4W
R7010	401 016 2505	CARBON 220 JA 1/4W
R7012	401 105 3701	CARBON 18K JA 1/4W
R7013	401 014 2804	CARBON 150 JA 1/4W
R7014	401 014 2804	CARBON 150 JA 1/4W
R7027	401 012 5609	CARBON 1K JA 1/4W
R7028	401 012 5609	CARBON 1K JA 1/4W
R7030	401 014 4006	CARBON 1.5K JA 1/4W
		(SWITCHES)
S7001	4–231V–72200	PUSH SWITCH
or	4–231V–73000	PUSH SWITCH
S7002	4–231V–72200	PUSH SWITCH
or	4–231V–73000	PUSH SWITCH
S7003	4–231V–72200	PUSH SWITCH
or	4–231V–73000	PUSH SWITCH
S7004	4–248V–03200	SLIDE SWITCH
S7005	4–248V–03100	SLIDE SWITCH
S7006	4–248V–03200	SLIDE SWITCH
		(VARIABLE RESISTORS)
VR7001	4–222V–33700	VR 500K OHM
VR7002	4–222V–32200	VR 5K OHM
VR7003	4–222V–33700	VR 500K OHM
		(MISCELLANEOUS)
A7001	4–986V–03310	AUDIO LEVEL METER
F7001	4–953V–26111	FILTER
F7002	4–953V–26111	FILTER

TB-1 BOARD (TERMINAL)
NO.143-0-233V-65700

Location	Part No.	Description
		(CAPACITORS)
C8001	403 073 7004	CERAMIC 470PF K 50V
C8002	403 073 7004	CERAMIC 470PF K 50V
C8003	403 073 7004	CERAMIC 470PF K 50V
C8004	403 073 7004	CERAMIC 470PF K 50V
C8005	403 073 7004	CERAMIC 470PF K 50V
C8006	403 073 7004	CERAMIC 470PF K 50V
C8007	403 073 7004	CERAMIC 470PF K 50V
C8008	403 073 7004	CERAMIC 470PF K 50V
C8009	403 073 7004	CERAMIC 470PF K 50V
C8010	403 073 7004	CERAMIC 470PF K 50V
		(COILS)
L8001	4–471V–11500	CORE
L8002	4–471V–11500	CORE
L8003	4–471V–11500	CORE
L8004	4–471V–11500	CORE
L8005	4–471V–11500	CORE
L8006	4–471V–11500	CORE
		(RESISTORS)
R8001	401 027 5205	CARBON 680 JA 1/6W
R8003	401 027 5205	CARBON 680 JA 1/6W
R8005	401 027 5205	CARBON 680 JA 1/6W
R8006	401 027 5205	CARBON 680 JA 1/6W
		(MISCELLANEOUS)
CN8005	4–235V–45302	TERMINAL,AUDIO IN(R)
CN8006	4–235V–45300	TERMINAL,AUDIO IN(L)
CN8007	4–235V–45302	TERMINAL,AUDIO OUT(R)
CN8008	4–235V–45300	TERMINAL,AUDIO OUT(L)

DM-1 BOARD (DM CONNECTION & P.C.B.)

Location	Part No.	Description
		(CAPACITORS)
C8001	403 003 3700	CERAMIC 0.022MF Z 25V
C8002	403 003 3700	CERAMIC 0.022MF Z 25V
C8003	403 003 3700	CERAMIC 0.022MF Z 25V
C8005	403 003 3700	CERAMIC 0.022MF Z 25V
C8006	403 003 3700	CERAMIC 0.022MF Z 25V
C8007	403 003 3700	CERAMIC 0.022MF Z 25V
C8009	403 003 3700	CERAMIC 0.022MF Z 25V
C8010	403 003 3700	CERAMIC 0.022MF Z 25V
C8011	403 003 3700	CERAMIC 0.022MF Z 25V
		(COILS)
L8001	4–471V–11700	CORE
L8002	4–471V–11700	CORE
L8003	4–471V–11700	CORE
		(RESISTOR)
R8001	401 012 4404	CARBON 100 JA 1/4W
		(MISCELLANEOUS)
F8001	4–953V–29500	FILTER
F8002	4–953V–29500	FILTER
F8003	4–953V–29500	FILTER

DM-2 BOARD (REC/PB VIDEO SIGNAL PROCESS CIRCUIT) NO.143-0-233V-63700

Location	Part No.	Description
		(COMPOSITE)
B8101	405 018 2402	TR 2SC3398-TB
B8102	405 018 1900	TR 2SC3395-TB
		(CAPACITORS)
C8101	403 039 2104	ELECT 47MF M 6.3V
C8102	403 074 3104	CERAMIC 0.047MF Z 50V
C8103	403 039 2104	ELECT 47MF M 6.3V
C8104	403 074 3104	CERAMIC 0.047MF Z 50V
C8105	403 010 8507	CERAMIC 12PF J 50V
C8106	403 086 5400	NP-ELECT 2.2MF M 50V
C8108	403 030 6903	CERAMIC 68PF J 50V
C8119	403 040 7501	ELECT 33MF M 10V
C8121	403 068 0409	CERAMIC 0.1MF Z 25V
C8122	403 039 2104	ELECT 47MF M 6.3V
C8123	403 040 7501	ELECT 33MF M 10V
C8124	403 069 5601	CERAMIC 0.01MF K 50V
C8125	403 043 9601	ELECT 47MF M 16V
C8127	403 068 0409	CERAMIC 0.1MF Z 25V
C8128	403 039 2609	ELECT 47MF M 6.3V
C8131	403 041 8804	ELECT 10MF M 16V
C8132	403 008 7406	CERAMIC 10PF D 50V
C8133	403 049 0008	ELECT 1MF M 50V
C8134	403 051 0607	ELECT 4.7MF M 50V
C8135	403 068 0409	CERAMIC 0.1MF Z 25V
C8136	403 039 2104	ELECT 47MF M 6.3V
C8137	403 010 1102	CERAMIC 1000PF J 50V
C8138	403 049 0008	ELECT 1MF M 50V
C8139	403 038 1603	ELECT 100MF M 6.3V
C8140	403 068 0409	CERAMIC 0.1MF Z 25V
C8141	403 039 2104	ELECT 47MF M 6.3V
C8142	403 010 1102	CERAMIC 1000PF J 50V
C8143	403 030 6903	CERAMIC 68PF J 50V
C8144	403 049 0008	ELECT 1MF M 50V
C8145	403 074 3104	CERAMIC 0.047MF Z 50V
C8146	403 041 8804	ELECT 10MF M 16V
C8147	403 069 5601	CERAMIC 0.01MF K 50V
C8148	403 032 8608	CERAMIC 8PF D 50V
C8149	403 030 6903	CERAMIC 68PF J 50V
C8150	403 010 8507	CERAMIC 12PF J 50V
C8151	403 049 0008	ELECT 1MF M 50V
C8152	403 074 3104	CERAMIC 0.047MF Z 50V
C8153	403 041 8804	ELECT 10MF M 16V
C8154	403 069 5601	CERAMIC 0.01MF K 50V
C8155	403 069 5601	CERAMIC 0.01MF K 50V
C8156	403 069 5601	CERAMIC 0.01MF K 50V
C8157	403 039 2104	ELECT 47MF M 6.3V
C8158	403 039 2104	ELECT 47MF M 6.3V
C8159	403 068 0409	CERAMIC 0.1MF Z 25V
C8160	403 049 0008	ELECT 1MF M 50V
C8161	403 074 3104	CERAMIC 0.047MF Z 50V
C8162	403 030 6903	CERAMIC 68PF J 50V
C8163	403 069 5601	CERAMIC 0.01MF K 50V
C8164	403 069 5601	CERAMIC 0.01MF K 50V
C8165	403 074 3104	CERAMIC 0.047MF Z 50V
C8166	403 069 5601	CERAMIC 0.01MF K 50V
C8167	403 014 9203	CERAMIC 180PF J 50V
C8168	403 069 5601	CERAMIC 0.01MF K 50V
C8169	403 071 8102	CERAMIC 2200PF K 50V
		(DIODE)
D8101	407 004 0706	DIODE DCB015
		(INTEGRATED CIRCUITS)
IC8103	409 115 3409	IC MN74HC4053S
or	409 146 4208	IC TC74HC4053F
IC8104	409 115 3409	IC MN74HC4053S
or	409 146 4208	IC TC74HC4053F
IC8105	409 146 4208	IC TC74HC4053F
		(COILS)
L8102	4–253V–97125	HF CHOKE 100UH
L8103	4–253V–97114	HF CHOKE 12UH
L8106	4–253V–97125	HF CHOKE 100UH
L8107	4–253V–97125	HF CHOKE 100UH
L8108	4–253V–97125	HF CHOKE 100UH
L8109	4–253V–97125	HF CHOKE 100UH
L8110	4–253V–97125	HF CHOKE 100UH
L8111	4–253V–97125	HF CHOKE 100UH
L8112	4–253V–97125	HF CHOKE 100UH
		(TRANSISTORS)
Q8101	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8102	405 043 8608	TR 2SA1256-E5-TB
or	405 043 8509	TR 2SA1256-E4-TB
Q8103	405 015 9909	TR 2SC2814-F5-TB
or	405 015 9701	TR 2SC2814-F4-TB
Q8104	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8105	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8106	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8107	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8108	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8109	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8110	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8111	405 043 8608	TR 2SA1256-E5-TB
or	405 043 8509	TR 2SA1256-E4-TB
Q8112	405 015 9909	TR 2SC2814-F5-TB
or	405 015 9701	TR 2SC2814-F4-TB
Q8114	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8115	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8116	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8117	405 043 8608	TR 2SA1256-E5-TB
or	405 043 8509	TR 2SA1256-E4-TB
Q8118	405 015 9909	TR 2SC2814-F5-TB
or	405 015 9701	TR 2SC2814-F4-TB
Q8119	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8120	405 015 8407	TR 2SC2814-F5-TB
or	405 015 8308	TR 2SC2814-F4-TB
Q8121	405 002 6409	TR 2SA1179-M4-TB
or	405 002 6508	TR 2SA1179-M5-TB

Location	Part No.	Description
Q8122	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8124	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8125	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8126	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8127	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8128	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8129	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8131	405 002 6409	TR 2SA1179-M4-TB
or	405 002 6508	TR 2SA1179-M5-TB
Q8132	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8307	TR 2SC2812-L4-TB
Q8133	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8134	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6409	TR 2SA1179-M4-TB
Q8135	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
Q8136	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8308	TR 2SC2812-L4-TB
		(RESISTORS)
R8101	401 037 5400	MT-GLAZE 1K JA 1/10W
R8102	401 038 7106	MT-GLAZE 510 JA 1/10W
R8103	401 038 7106	MT-GLAZE 510 JA 1/10W
R8104	401 039 0304	MT-GLAZE 820 JA 1/10W
R8105	401 038 7106	MT-GLAZE 510 JA 1/10W
R8106	401 038 5300	MT-GLAZE 39K JA 1/10W
R8107	401 037 8005	MT-GLAZE 15K JA 1/10W
R8108	401 037 5400	MT-GLAZE 1K JA 1/10W
R8109	401 037 5400	MT-GLAZE 1K JA 1/10W
R8110	401 037 5400	MT-GLAZE 1K JA 1/10W
R8111	401 037 5400	MT-GLAZE 1K JA 1/10W
R8112	401 037 6704	MT-GLAZE 1.2K JA 1/10W
R8113	401 037 5400	MT-GLAZE 1K JA 1/10W
R8114	401 037 5400	MT-GLAZE 1K JA 1/10W
R8115	401 038 5003	MT-GLAZE 390 JA 1/10W
R8116	401 037 7305	MT-GLAZE 1.3K JA 1/10W
R8117	401 038 1302	MT-GLAZE 2.4K JA 1/10W
R8118	401 038 5003	MT-GLAZE 390 JA 1/10W
R8119	401 037 7305	MT-GLAZE 1.3K JA 1/10W
R8120	401 038 1302	MT-GLAZE 2.4K JA 1/10W
R8121	401 038 9001	MT-GLAZE 680 JA 1/10W
R8122	401 038 5904	MT-GLAZE 4.3K JA 1/10W
R8123	401 038 5904	MT-GLAZE 4.3K JA 1/10W
R8124	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R8125	401 037 9200	MT-GLAZE 1.8K JA 1/10W
R8126	401 038 5904	MT-GLAZE 4.3K JA 1/10W
R8127	401 038 5904	MT-GLAZE 4.3K JA 1/10W
R8128	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R8129	401 037 5608	MT-GLAZE 10K JA 1/10W
R8130	401 037 5400	MT-GLAZE 1K JA 1/10W
R8131	401 037 5400	MT-GLAZE 1K JA 1/10W
R8132	401 037 5400	MT-GLAZE 1K JA 1/10W
R8133	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R8134	401 038 1401	MT-GLAZE 24K JA 1/10W
R8135	401 037 5400	MT-GLAZE 1K JA 1/10W
R8136	401 038 6505	MT-GLAZE 47K JA 1/10W
R8137	401 037 5400	MT-GLAZE 1K JA 1/10W
R8138	401 037 5400	MT-GLAZE 1K JA 1/10W
R8139	401 037 5608	MT-GLAZE 10K JA 1/10W
R8140	401 037 5608	MT-GLAZE 10K JA 1/10W
R8141	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R8142	401 037 5400	MT-GLAZE 1K JA 1/10W
R8143	401 037 6704	MT-GLAZE 1.2K JA 1/10W
R8144	401 037 8005	MT-GLAZE 15K JA 1/10W
R8145	401 038 3702	MT-GLAZE 33K JA 1/10W
R8146	401 037 7305	MT-GLAZE 1.3K JA 1/10W
R8147	401 038 3009	MT-GLAZE 3K JA 1/10W
R8148	401 038 1302	MT-GLAZE 2.4K JA 1/10W
R8149	401 038 1302	MT-GLAZE 2.4K JA 1/10W
R8150	401 038 9605	MT-GLAZE 750 JA 1/10W
R8151	401 038 4105	MT-GLAZE 3.6K JA 1/10W
R8152	401 037 9200	MT-GLAZE 1.8K JA 1/10W
R8153	401 037 5400	MT-GLAZE 1K JA 1/10W
R8154	401 037 5400	MT-GLAZE 1K JA 1/10W
R8155	401 037 5400	MT-GLAZE 1K JA 1/10W
R8156	401 037 5608	MT-GLAZE 10K JA 1/10W
R8157	401 038 5102	MT-GLAZE 3.9K JA 1/10W
R8158	401 037 7404	MT-GLAZE 13K JA 1/10W
R8159	401 039 0809	MT-GLAZE 91 JA 1/10W
R8160	401 038 6307	MT-GLAZE 470 JA 1/10W
R8161	401 037 5608	MT-GLAZE 10K JA 1/10W
R8162	401 038 9209	MT-GLAZE 6.8K JA 1/10W
R8163	401 038 9209	MT-GLAZE 6.8K JA 1/10W
R8164	401 038 9209	MT-GLAZE 6.8K JA 1/10W
R8165	401 037 2102	MT-GLAZE 6.8K JA 1/8W
R8166	401 038 1401	MT-GLAZE 24K JA 1/10W
R8167	401 038 5102	MT-GLAZE 3.9K JA 1/10W
R8168	401 035 5204	MT-GLAZE 10K JA 1/8W
R8169	401 038 9605	MT-GLAZE 750 JA 1/10W
R8170	401 037 5400	MT-GLAZE 1K JA 1/10W
R8171	401 037 7800	MT-GLAZE 150 JA 1/10W
R8172	401 037 7206	MT-GLAZE 130 JA 1/10 W
R8173	401 038 1302	MT-GLAZE 2.4K JA 1/10W
R8174	401 037 5400	MT-GLAZE 1K JA 1/10W
R8175	401 038 4105	MT-GLAZE 3.6K JA 1/10W
R8176	401 039 1004	MT-GLAZE 9.1K JA 1/10W
R8177	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R8178	401 039 0304	MT-GLAZE 820 JA 1/10W
R8179	401 037 6704	MT-GLAZE 1.2K JA 1/10W
R8180	401 038 0206	MT-GLAZE 20K JA 1/10W
R8181	401 037 5608	MT-GLAZE 10K JA 1/10W
R8182	401 037 5400	MT-GLAZE 1K JA 1/10W
R8183	401 037 5400	MT-GLAZE 1K JA 1/10W
R8184	401 037 5400	MT-GLAZE 1K JA 1/10W
R8185	401 037 5400	MT-GLAZE 1K JA 1/10W
R8186	401 038 5805	MT-GLAZE 430 JA 1/10W
R8187	401 038 1302	MT-GLAZE 2.4K JA 1/10W
R8188	401 037 5400	MT-GLAZE 1K JA 1/10W
R8190	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R8191	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R8192	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R8193	401 038 9704	MT-GLAZE 7.5K JA 1/10W
R8194	401 037 9309	MT-GLAZE 18K JA 1/10W
R8195	401 037 7404	MT-GLAZE 13K JA 1/10W
R8196	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8197	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8199	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
		(SEMI VARIABLE RESISTORS)
SVR8101	4–222V–69103	SEMI VR 1K OHM
or	4–222V–68906	SEMI VR 1K OHM
SVR8103	4–222V–69107	SEMI VR 10K OHM
or	4–222V–68912	SEMI VR 10K OHM
SVR8104	4–222V–69106	SEMI VR 5K OHM
or	4–222V–68910	SEMI VR 4.7K OHM
SVR8105	4–222V–69107	SEMI VR 10K OHM
or	4–222V–68912	SEMI VR 10K OHM
SVR8106	4–222V–69106	SEMI VR 5K OHM
or	4–222V–68910	SEMI VR 4.7K OHM
SVR8107	4–222V–69108	SEMI VR 20K OHM
or	4–222V–68914	SEMI VR 22K OHM
		(MISCELLANEOUS)
CN8103	4–236V–29912	PLUG
F8101	4–259V–32000	HF COIL TRANS.1.7MHZ LPF
or	4–259V–32050	HF COIL TRANS.
F8102	4–259V–32100	HF COIL TRANS.4MHZ LPF
or	4–259V–32150	HF COIL TRANS.
F8103	4–259V–32200	HF COIL TRANS.4MHZ LPF
or	4–259V–32250	HF COIL TRANS.

Location	Part No.	Description
F8104	4–259V–32300	HF COIL TRANS.1.25MHZ LPF
or	4–259V–32350	HF COIL TRANS.
F8105	4–259V–32100	HF COIL TRANS.4MHZ LPF
or	4–259V–32150	HF COIL TRANS.
F8106	4–259V–32300	HF COIL TRANS.1.25MHZ LPF
or	4–259V–32350	HF COIL TRANS.

DM-3 BOARD (SYNC. SEPARATOR CIRCUIT) NO.143-0-233V-63800

Location	Part No.	Description
		(COMPOSITE)
B8201	405 018 2709	TR 2SC3401
B8203	405 018 2501	TR 2SC3399
or	405 001 0408	TR RN1204
B8204	405 018 2501	TR 2SC3399
or	405 001 0408	TR RN1204
		(CAPACITORS)
C8201	403 043 9601	ELECT 47MF M 16V
C8202	403 114 3705	CERAMIC 0.1MF Z 50V
C8203	403 038 2006	ELECT 100MF M 6.3V
C8204	403 114 3705	CERAMIC 0.1MF Z 50V
C8205	403 043 9601	ELECT 47MF M 16V
C8206	403 114 3705	CERAMIC 0.1MF Z 50V
C8207	403 047 0604	ELECT 4.7MF M 25V
C8208	403 070 8608	CERAMIC 1500PF K 50V
C8209	403 047 0604	ELECT 4.7MF M 25V
C8210	403 042 8308	ELECT 22MF M 16V
C8211	403 062 8203	POLYESTER 680PF J 50V
C8212	403 058 3304	POLYESTER 0.015MF K 50V
C8213	403 063 1302	POLYESTER 0.068MF J 50V
C8214	403 057 2902	POLYESTER 0.1MF K 50V
C8215	403 059 6007	POLYESTER 0.022MF K 50V
C8216	403 050 0509	ELECT 2.2MF M 50V
C8217	403 062 4502	POLYESTER 5600PF J 50V
C8218	403 001 1906	CERAMIC 0.01MF M 16V
C8219	403 049 0800	ELECT 1MF M 50V
C8220	403 056 7205	POLYESTER 1000PF J 50V
C8221	403 004 1002	CERAMIC 0.047MF M 25V
C8222	403 043 9601	ELECT 47MF M 16V
C8223	403 114 3705	CERAMIC 0.1MF Z 50V
C8224	403 047 0604	ELECT 4.7MF M 25V
C8225	403 070 8608	CERAMIC 1500PF K 50V
C8226	403 047 0604	ELECT 4.7MF M 25V
C8227	403 042 8308	ELECT 22MF M 16V
C8228	403 062 8203	POLYESTER 680PF J 50V
C8229	403 058 3304	POLYESTER 0.015MF K 50V
C8230	403 063 1302	POLYESTER 0.068MF J 50V
C8231	403 057 2902	POLYESTER 0.1MF K 50V
C8232	403 059 6007	POLYESTER 0.022MF K 50V
C8233	403 050 0509	ELECT 2.2MF M 50V
C8234	403 062 4502	POLYESTER 5600PF J 50V
C8235	403 001 1906	CERAMIC 0.01MF M 16V
C8236	403 049 0800	ELECT 1MF M 50V
C8237	403 056 7205	POLYESTER 1000PF J 50V
C8238	403 004 1002	CERAMIC 0.047MF M 25V
C8239	403 047 0604	ELECT 4.7MF M 25V
C8240	403 043 9601	ELECT 47MF M 16V
C8241	403 114 3705	CERAMIC 0.1MF Z 50V
C8242	403 048 6902	ELECT 0.47MF M 50V
C8243	403 069 0309	CERAMIC 1000PF J 50V
C8244	403 049 0800	ELECT 1MF M 50V
C8245	403 048 6902	ELECT 0.47MF M 50V
C8246	403 072 7500	CERAMIC 330PF J 50V
C8247	403 069 0309	CERAMIC 1000PF J 50V
C8248	403 114 3705	CERAMIC 0.1MF Z 50V
		(INTEGRATED CIRCUITS)
IC8201	409 019 5301	IC LA7820
IC8202	409 019 5301	IC LA7820
IC8203	409 019 0504	IC LA7210
IC8204	409 129 2702	IC M74HC157P
		(COILS)
L8201	4–253V–97125	HF CHOKE 100UH K
L8202	4–253V–97125	HF CHOKE 100UH K
L8203	4–253V–97125	HF CHOKE 100UH K
L8204	4–253V–97125	HF CHOKE 100UH K
		(TRANSISTORS)
Q8201	405 019 2005	TR 2SC536-E-SPA
or	405 019 2807	TR 2SC536-F-SPA
Q8202	405 019 2005	TR 2SC536-E-SPA
or	405 019 2807	TR 2SC536-F-SPA
Q8203	405 019 2005	TR 2SC536-E-SPA
or	405 019 2807	TR 2SC536-F-SPA
Q8204	405 019 2005	TR 2SC536-E-SPA
or	405 019 2807	TR 2SC536-F-SPA
Q8205	405 019 2005	TR 2SC536-E-SPA
or	405 019 2807	TR 2SC536-F-SPA
Q8206	405 004 4007	TR 2SA608-E-SPA
or	405 004 4601	TR 2SA608-F-SPA
		(RESISTORS)
R8201	401 019 2908	CARBON 39K JA 1/4W
R8202	401 020 8807	CARBON 51K JA 1/4W
R8203	401 018 3708	CARBON 3.3K JA 1/4W
R8204	401 016 2505	CARBON 220 JA 1/4W
R8205	401 014 9407	CARBON 160K JA 1/4W
R8206	401 021 1807	CARBON 560 JA 1/4W
R8207	401 012 6903	CARBON 10K JA 1/4W
R8208	401 023 2703	CARBON 8.2K JA 1/4W
R8209	401 017 2702	CARBON 27K JA 1/4W
R8210	401 016 5704	CARBON 220K JA 1/4W
R8211	401 016 5704	CARBON 220K JA 1/4W
R8212	401 021 4006	CARBON 56K JA 1/4W
R8213	401 012 6903	CARBON 10K JA 1/4W
R8214	401 012 5609	CARBON 1K JA 1/4W
R8215	401 013 9903	CARBON 13K JA 1/4W
R8216	401 018 4804	CARBON 33K JA 1/4W
R8217	401 022 3008	CARBON 6.8K JA 1/4W
R8218	401 016 4707	CARBON 22K JA 1/4W
R8219	401 019 2908	CARBON 39K JA 1/4W
R8220	401 020 8807	CARBON 51K JA 1/4W
R8221	401 018 3708	CARBON 3.3K JA 1/4W
R8222	401 016 2505	CARBON 220 JA 1/4W
R8223	401 014 9407	CARBON 160K JA 1/4W
R8224	401 021 1807	CARBON 560 JA 1/4W
R8225	401 012 6903	CARBON 10K JA 1/4W
R8226	401 023 2703	CARBON 8.2K JA 1/4W
R8227	401 017 2702	CARBON 27K JA 1/4W
R8228	401 016 5704	CARBON 220K JA 1/4W
R8229	401 016 5704	CARBON 220K JA 1/4W
R8230	401 021 4006	CARBON 56K JA 1/4W
R8231	401 012 6903	CARBON 10K JA 1/4W
R8232	401 012 5609	CARBON 1K JA 1/4W
R8233	401 013 9903	CARBON 13K JA 1/4W
R8234	401 018 4804	CARBON 33K JA 1/4W
R8235	401 022 3008	CARBON 6.8K JA 1/4W
R8236	401 016 4707	CARBON 22K JA 1/4W
R8237	401 021 9605	CARBON 62K JA 1/4W
R8238	401 018 4804	CARBON 33K JA 1/4W
R8239	401 018 3708	CARBON 3.3K JA 1/4W
R8240	401 016 2505	CARBON 220 JA 1/4W
R8241	401 022 8003	CARBON 75K JA 1/4W
R8242	401 105 3701	CARBON 18K JA 1/4W
R8243	401 018 5702	CARBON 330K JA 1/4W
R8244	401 012 5609	CARBON 1K JA 1/4W
R8245	401 013 5202	CARBON 1.2K JA 1/4W
R8246	401 014 5102	CARBON 15K JA 1/4W
R8248	401 012 6903	CARBON 10K JA 1/4W
R8250	401 012 6903	CARBON 10K JA 1/4W
R8251	401 020 2805	CARBON 47K JA 1/4W
R8252	401 012 6903	CARBON 10K JA 1/4W
R8253	401 012 6903	CARBON 10K JA 1/4W

Location	Part No.	Description
R8254	401 020 2805	CARBON 47K JA 1/4W
R8255	401 012 6903	CARBON 10K JA 1/4W
R8256	401 012 5609	CARBON 1K JA 1/4W
R8257	401 012 5609	CARBON 1K JA 1/4W
R8258	401 012 5609	CARBON 1K JA 1/4W
R8259	401 012 5609	CARBON 1K JA 1/4W
R8260	401 020 1907	CARBON 4.7K JA 1/4W
R8261	401 012 5609	CARBON 1K JA 1/4W
R8262	401 012 6903	CARBON 10K JA 1/4W
		(SEMI VARIABLE RESISTORS)
SVR8201	4–222V–69112	SEMI VR 200K OHM
or	4–222V–69012	SEMI VR 200K OHM
or	4–222V–68920	SEMI VR 220K OHM
SVR8202	4–222V–69106	SEMI VR 5K OHM
or	4–222V–69006	SEMI VR 5K OHM
or	4–222V–68910	SEMI VR 4.7K OHM
SVR8203	4–222V–69112	SEMI VR 200K OHM
or	4–222V–69012	SEMI VR 200K OHM
or	4–222V–68920	SEMI VR 220K OHM
SVR8204	4–222V–69106	SEMI VR 5K OHM
or	4–222V–69006	SEMI VR 5K OHM
or	4–222V–68910	SEMI VR 4.7K OHM
		(MISCELLANEOUS)
X8201	4–953V–07500	FILTER

DM-4 BOARD (DIGITAL VIDEO)
NO.143-0-233V-63950

Location	Part No.	Description
		(COMPOSITE)
B8301	405 018 2402	TR 2SC3398-TB
B8310	405 003 7801	TR 2SA1347
or	405 000 2502	TR DTA144WK-T96
		(CAPACITORS)
C8301	403 069 5601	CERAMIC 0.01MF K 50V
C8302	403 069 5601	CERAMIC 0.01MF K 50V
C8303	403 056 7205	POLYESTER 1000PF J 50V
C8304	403 069 5601	CERAMIC 0.01MF K 50V
C8305	403 069 5601	CERAMIC 0.01MF K 50V
C8306	403 049 0800	ELECT 1MF M 50V
C8307	403 039 2609	ELECT 47MF M 6.3V
C8308	403 069 5601	CERAMIC 0.01MF K 50V
C8309	403 049 0800	ELECT 1MF M 50V
C8310	403 069 5601	CERAMIC 0.01MF K 50V
C8312	403 028 9800	CERAMIC 560PF J 50V
C8313	403 069 5601	CERAMIC 0.01MF K 50V
C8314	403 009 5708	CERAMIC 100PF J 50V
C8315	403 068 0409	CERAMIC 0.1MF Z 25V
C8316	403 069 5601	CERAMIC 0.01MF K 50V
C8317	403 074 1902	CERAMIC 0.047MF K 50V
C8318	403 074 1902	CERAMIC 0.047MF K 50V
C8319	403 049 0800	ELECT 1MF M 50V
C8320	403 048 6902	ELECT 0.47MF M 50V
C8321	403 049 0800	ELECT 1MF M 50V
C8331	403 047 0604	ELECT 4.7MF M 25V
C8332	403 069 5601	CERAMIC 0.01MF K 50V
C8333	403 069 5601	CERAMIC 0.01MF K 50V
C8334	403 056 7205	POLYESTER 1000PF J 50V
C8335	403 069 5601	CERAMIC 0.01MF K 50V
C8336	403 069 5601	CERAMIC 0.01MF K 50V
C8337	403 049 0800	ELECT 1MF M 50V
C8338	403 039 2609	ELECT 47MF M 6.3V
C8339	403 069 5601	CERAMIC 0.01MF K 50V
C8340	403 049 0800	ELECT 1MF M 50V
C8341	403 069 5601	CERAMIC 0.01MF K 50V
C8342	403 008 7406	CERAMIC 10PF D 50V
C8343	403 028 9800	CERAMIC 560PF J 50V
C8344	403 069 5601	CERAMIC 0.01MF K 50V
C8345	403 069 5601	CERAMIC 0.01MF K 50V
C8346	403 074 3104	CERAMIC 0.047MF Z 50V
C8347	403 074 3104	CERAMIC 0.047MF Z 50V
C8348	403 049 0800	ELECT 1MF M 50V
C8349	403 048 6902	ELECT 0.47MF M 50V
C8350	403 049 0800	ELECT 1MF M 50V
C8355	403 069 5700	CERAMIC 0.01MF K 50V
C8357	403 069 5700	CERAMIC 0.01MF K 50V
C8361	403 039 2609	ELECT 47MF M 6.3V
C8362	403 039 2609	ELECT 47MF M 6.3V
C8363	403 039 2609	ELECT 47MF M 6.3V
C8372	403 074 3104	CERAMIC 0.047MF Z 50V
C8373	403 074 3104	CERAMIC 0.047MF Z 50V
C8374	403 074 3104	CERAMIC 0.047MF Z 50V
C8375	403 074 3104	CERAMIC 0.047MF Z 50V
C8376	403 074 3104	CERAMIC 0.047MF Z 50V
C8377	403 074 3104	CERAMIC 0.047MF Z 50V
C8378	403 074 3104	CERAMIC 0.047MF Z 50V
C8380	403 074 3104	CERAMIC 0.047MF Z 50V
C8381	403 074 3104	CERAMIC 0.047MF Z 50V
C8384	403 074 3104	CERAMIC 0.047MF Z 50V
C8385	403 074 3104	CERAMIC 0.047MF Z 50V
		(DIODES)
D8301	407 004 0706	DIODE DCB015-TB
D8302	407 004 0706	DIODE DCA015-TB
		(INTEGRATED CIRCUITS)
IC8301	409 128 8903	IC M51271SP
IC8302	409 128 9009	IC M51279SP
		(COILS)
L8301	4–253V–74419	HF CHOKE 8.2UH J
L8302	4–253V–74419	HF CHOKE 8.2UH J
L8311	4–253V–97125	HF CHOKE 100UH K
L8312	4–253V–97125	HF CHOKE 100UH K
		(TRANSISTORS)
Q8301	405 043 8608	TR 2SA1256-E5-TB
Q8302	405 015 9909	TR 2SC2814-F5-TB
Q8303	405 043 8608	TR 2SA1256-E5-TB
Q8304	405 015 9909	TR 2SC2814-F5-TB
Q8305	405 043 8608	TR 2SA1256-E5-TB
Q8306	405 043 8608	TR 2SA1256-E5-TB
Q8307	405 043 8608	TR 2SA1256-E5-TB
Q8308	405 043 8608	TR 2SA1256-E5-TB
Q8309	405 043 8608	TR 2SA1256-E5-TB
Q8310	405 043 8608	TR 2SA1256-E5-TB
Q8311	405 015 9909	TR 2SC2814-F5-TB
Q8322	405 015 9909	TR 2SC2814-F5-TB
Q8324	405 015 9909	TR 2SC2814-F5-TB
Q8331	405 015 9909	TR 2SC2814-F5-TB
		(RESISTORS)
R8301	401 036 8105	MT-GLAZE 470 JA 1/8W
R8302	401 035 4900	MT-GLAZE 1K JA 1/8W
R8303	401 037 5400	MT-GLAZE 1K JA 1/10W
R8304	401 037 8708	MT-GLAZE 16K JA 1/10W
R8305	401 038 3702	MT-GLAZE 33K JA 1/10W
R8306	401 039 1004	MT-GLAZE 9.1K JA 1/10W
R8307	401 035 7406	MT-GLAZE 1.3K JA 1/8W
R8308	401 037 7305	MT-GLAZE 1.3K JA 1/10W
R8309	401 036 8808	MT-GLAZE 470K JA 1/8W
R8310	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R8311	401 038 0602	MT-GLAZE 220 JA 1/10W
R8312	401 038 5805	MT-GLAZE 430 JA 1/10W
R8313	401 037 5400	MT-GLAZE 1K JA 1/10W
R8314	401 035 4900	MT-GLAZE 1K JA 1/8W
R8315	401 038 7601	MT-GLAZE 560 JA 1/10W
R8316	401 038 5003	MT-GLAZE 390 JA 1/10W
R8317	401 037 9200	MT-GLAZE 1.8K JA 1/10W
R8318	401 037 5806	MT-GLAZE 1M JA 1/10W
R8319	401 035 5709	MT-GLAZE 1M JA 1/8W
R8320	401 038 9605	MT-GLAZE 750 JA 1/10W
R8321	401 038 5003	MT-GLAZE 390 JA 1/10W
R8322	401 038 5003	MT-GLAZE 390 JA 1/10W

Location	Part No.	Description
R8323	401 038 5003	MT-GLAZE 390 JA 1/10W
R8324	401 038 5003	MT-GLAZE 390 JA 1/10W
R8325	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R8326	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R8327	401 038 5300	MT-GLAZE 39K JA 1/10W
R8330	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R8331	401 038 6109	MT-GLAZE 430K JA 1/10W
R8332	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8333	401 038 0800	MT-GLAZE 22K JA 1/10W
R8334	401 038 0800	MT-GLAZE 22K JA 1/10W
R8335	401 037 5400	MT-GLAZE 1K JA 1/10W
R8336	401 035 4900	MT-GLAZE 1K JA 1/8W
R8337	401 037 5400	MT-GLAZE 1K JA 1/10W
R8338	401 038 0206	MT-GLAZE 20K JA 1/10W
R8339	401 038 3702	MT-GLAZE 33K JA 1/10W
R8340	401 037 8005	MT-GLAZE 15K JA 1/10W
R8341	401 037 7305	MT-GLAZE 1.3K JA 1/10W
R8342	401 037 7305	MT-GLAZE 1.3K JA 1/10W
R8343	401 036 8808	MT-GLAZE 470K JA 1/8W
R8344	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R8345	401 038 0602	MT-GLAZE 220 JA 1/10W
R8346	401 038 5805	MT-GLAZE 430 JA 1/10W
R8347	401 038 5300	MT-GLAZE 39K JA 1/10W
R8350	401 038 0800	MT-GLAZE 22K JA 1/10W
R8351	401 037 8104	MT-GLAZE 150K JA 1/10W
R8352	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R8353	401 038 5003	MT-GLAZE 390 JA 1/10W
R8354	401 037 5400	MT-GLAZE 1K JA 1/10W
R8355	401 037 5400	MT-GLAZE 1K JA 1/10W
R8356	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R8357	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R8358	401 038 5003	MT-GLAZE 390 JA 1/10W
R8359	401 037 5400	MT-GLAZE 1K JA 1/10W
R8360	401 037 5400	MT-GLAZE 1K JA 1/10W
R8361	401 038 3603	MT-GLAZE 3.3K JA 1/10W
R8362	401 039 0403	MT-GLAZE 8.2K JA 1/10W
R8363	401 037 8005	MT-GLAZE 15K JA 1/10W
R8364	401 038 5003	MT-GLAZE 390K JA 1/10W
R8365	401 037 5202	MT-GLAZE 100 JA 1/10W
R8366	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R8367	401 037 9101	MT-GLAZE 180 JA 1/10W
R8368	401 039 0403	MT-GLAZE 8.2K JA 1/10W
R8369	401 037 8005	MT-GLAZE 15K JA 1/10W
R8372	401 037 7909	MT-GLAZE 1.5K JA 1/10W
R8373	401 038 2002	MT-GLAZE 270 JA 1/10W
R8374	401 038 0800	MT-GLAZE 22K JA 1/10W
R8375	401 038 0800	MT-GLAZE 22K JA 1/10W
R8376	401 037 9200	MT-GLAZE 1.8K JA 1/10W
R8379	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R8380	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R8381	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8382	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8383	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8385	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8386	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8387	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8388	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8389	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8390	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8391	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8392	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8393	401 037 5004	MT-GLAZE 0.000 ZA 1/10W
R8394	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R8395	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R8397	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R8398	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R8399	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
		(SEMI VARIABLE RESISTORS)
SVR8301	4-222V-69706	SEMI VR 1K OHM
SVR8302	4-222V-69716	SEMI VR 47K OHM
or	4-222V-69704	SEMI VR 470 OHM
SVR8303	4-222V-69706	SEMI VR 1K OHM

Location	Part No.	Description
		(MISCELLANEOUS)
CT8301	4-224V-15400	TRIMMER
CT8302	4-224V-15400	TRIMMER
DL8301	4-284V-20700	DELAY LINE 1H
F8301	4-259V-31700	HF COIL TRANS.4.43MHZ BPF
or	4-259V-31750	HF COIL TRANS.
F8302	4-259V-31700	HF COIL TRANS.4.43MHZ BPF
or	4-259V-31750	HF COIL TRANS.
F8303	4-259V-31800	HF COIL TRANS.1.25MHZ BPF
or	4-259V-31850	HF COIL TRANS.
F8304	4-259V-31800	HF COIL TRANS.1.25MHZ BPF
or	4-259V-31850	HF COIL TRANS.
X8301	4-225V-27200	CRYSTAL
X8302	4-225V-27200	CRYSTAL

DM-5 BOARD (DIGITAL CIRCUIT)
NO.143-0-233V-65800

Location	Part No.	Description
		(CAPACITORS)
C001	403 038 1603	ELECT 100MF M 6.3V
C002	403 038 1603	ELECT 100MF M 6.3V
C101	403 072 1607	CERAMIC 0.022MF K 50V
C102	403 072 1607	CERAMIC 0.022MF K 50V
C103	403 072 1607	CERAMIC 0.022MF K 50V
C104	403 039 2104	ELECT 47MF M 6.3V
C105	403 072 1607	CERAMIC 0.022MF K 50V
C201	403 072 1607	CERAMIC 0.022MF K 50V
C202	403 039 2104	ELECT 47MF M 6.3V
C203	403 072 1607	CERAMIC 0.022MF K 50V
C205	403 072 1607	CERAMIC 0.022MF K 50V
C206	403 014 3409	CERAMIC 18PF J 50V
C207	403 014 3409	CERAMIC 18PF J 50V
C208	403 072 1607	CERAMIC 0.022MF K 50V
C301	403 072 1607	CERAMIC 0.022MF K 50V
C302	403 039 2104	ELECT 47MF M 6.3V
C303	403 072 1607	CERAMIC 0.022MF K 50V
C304	403 022 8205	CERAMIC 33PF J 50V
C305	403 022 8205	CERAMIC 33PF J 50V
C306	403 072 1607	CERAMIC 0.022MF K 50V
C307	403 072 1607	CERAMIC 0.022MF K 50V
C308	403 039 2104	ELECT 47MF M 6.3V
C309	403 072 1607	CERAMIC 0.022MF K 50V
C310	403 031 9200	CERAMIC 7PF D 50V
C311	403 031 9200	CERAMIC 7PF D 50V
C312	403 072 1607	CERAMIC 0.022MF K 50V
C313	403 030 6903	CERAMIC 68PF J 50V
C314	403 030 6903	CERAMIC 68PF J 50V
C315	403 072 1607	CERAMIC 0.022MF K 50V
C401	403 072 1607	CERAMIC 0.022MF K 50V
C402	403 039 2104	ELECT 47MF M 6.3V
C403	403 072 1607	CERAMIC 0.022MF K 50V
C404	403 072 1607	CERAMIC 0.022MF K 50V
C405	403 072 1607	CERAMIC 0.022MF K 50V
C406	403 049 0008	ELECT 1MF M 50V
C407	403 073 9107	CERAMIC 4700PF K 50V
C408	403 026 7501	CERAMIC 470PF J 50V
C409	403 072 1607	CERAMIC 0.022MF K 50V
C410	403 072 1607	CERAMIC 0.022MF K 50V
C411	403 039 2104	ELECT 47MF M 6.3V
C412	403 072 1607	CERAMIC 0.022MF K 50V
C413	403 072 1607	CERAMIC 0.022MF K 50V
C414	403 039 2104	ELECT 47MF M 6.3V
C415	403 072 1607	CERAMIC 0.022MF K 50V
C416	403 072 1607	CERAMIC 0.022MF K 50V
C417	403 072 1607	CERAMIC 0.022MF K 50V
C418	403 049 0008	ELECT 1MF M 50V
C419	403 073 9107	CERAMIC 4700PF K 50V
C420	403 026 7501	CERAMIC 470PF J 50V
C421	403 072 1607	CERAMIC 0.022MF K 50V
C422	403 072 1607	CERAMIC 0.022MF K 50V
C423	403 039 2104	ELECT 47MF M 6.3V

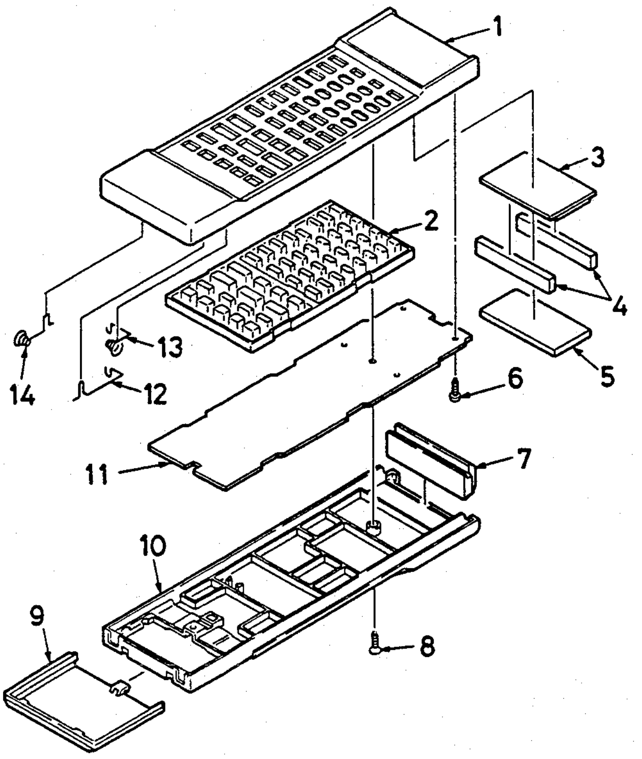
Location	Part No.	Description
C424	403 072 1607	CERAMIC 0.022MF K 50V
C501	403 068 0409	CERAMIC 0.1MF Z 25V
C502	403 068 0409	CERAMIC 0.1MF Z 25V
C503	403 068 0409	CERAMIC 0.1MF Z 25V
C504	403 072 1607	CERAMIC 0.022MF K 50V
C505	403 039 3507	ELECT 470MF M 6.3V
C506	403 072 1607	CERAMIC 0.022MF K 50V
C601	403 072 1607	CERAMIC 0.022MF K 50V
C602	403 072 1607	CERAMIC 0.022MF K 50V
C603	403 039 2104	ELECT 47MF M 6.3V
C604	403 072 1607	CERAMIC 0.022MF K 50V
C605	403 072 1607	CERAMIC 0.022MF K 50V
C701	403 072 1607	CERAMIC 0.022MF K 50V
C702	403 039 2104	ELECT 47MF M 6.3V
C703	403 072 1607	CERAMIC 0.022MF K 50V
C704	403 072 1607	CERAMIC 0.022MF K 50V
C705	403 072 1607	CERAMIC 0.022MF K 50V
C706	403 072 1607	CERAMIC 0.022MF K 50V
C707	403 039 2104	ELECT 47MF M 6.3V
C708	403 072 1607	CERAMIC 0.022MF K 50V
C709	403 072 1607	CERAMIC 0.022MF K 50V
C710	403 039 2104	ELECT 47MF M 6.3V
C711	403 072 1607	CERAMIC 0.022MF K 50V
C712	403 072 1607	CERAMIC 0.022MF K 50V
C713	403 072 1607	CERAMIC 0.022MF K 50V
C714	403 072 1607	CERAMIC 0.022MF K 50V
C715	403 039 2104	ELECT 47MF M 6.3V
C716	403 072 1607	CERAMIC 0.022MF K 50V
C717	403 039 2104	ELECT 47MF M 6.3V
C718	403 072 1607	CERAMIC 0.022MF K 50V
C719	403 072 1607	CERAMIC 0.022MF K 50V
C720	403 072 1607	CERAMIC 0.022MF K 50V
C721	403 072 1607	CERAMIC 0.022MF K 50V
C722	403 072 1607	CERAMIC 0.022MF K 50V
C723	403 039 2104	ELECT 47MF M 6.3V
		(DIODES)
D001	407 057 3600	ZENER DIODE RD6.2M-T1BB1
D002	407 057 3600	ZENER DIODE RD6.2M-T1BB1
D101	407 012 6202	DIODE 1SS184-TE85R
D301	407 012 7605	DIODE 1SS226-TE85R
D302	407 012 6301	DIODE 1SS187-TE85R
		(INTEGRATED CIRCUITS)
IC101	409 115 3409	IC MN74HC4053S
IC201	409 140 1104	IC M50747-680FP
IC202	409 140 1005	IC MN12821Q
IC301	409 044 2702	IC SN74S124N
IC302	410 038 5401	IC M60019-0251FP
IC401	409 131 0901	IC M52678FP
IC402	409 131 0901	IC M52678FP
IC501	409 132 3802	IC M5M4C500L
IC502	409 132 3802	IC M5M4C500L
IC503	409 132 3802	IC M5M4C500L
IC601	409 120 8901	IC UPD74HC157G
IC602	409 120 8901	IC UPD74HC157G
IC701	409 131 1007	IC M52679FP
IC702	409 131 1007	IC M52679FP
IC703	409 131 1007	IC M52679FP
		(COILS)
L001	4-471V-12400	CORE
L002	4-471V-12400	CORE
L003	4-471V-12400	CORE
L004	4-471V-12400	CORE
L101	4-253F-10106	RF CHOKE
L102	4-471V-12300	CORE
L103	4-253F-10101	RF CHOKE
L301	4-253F-10106	RF CHOKE
L401	4-253F-10106	RF CHOKE
L402	4-253F-10101	RF CHOKE
L403	4-253F-10106	RF CHOKE
L404	4-253F-10101	RF CHOKE
L701	4-253F-10106	RF CHOKE

Location	Part No.	Description
L702	4-253F-10106	RF CHOKE
L703	4-253F-10106	RF CHOKE
L704	4-253F-10100	RF CHOKE
L705	4-253F-10100	RF CHOKE
		(TRANSISTORS)
Q101	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6706	TR 2SA1179-M6-TB
Q201	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6706	TR 2SA1179-M6-TB
Q202	405 018 1900	TR 2SC3395-TB
Q303	405 015 8407	TR 2SC2812-L5-TB
or	405 015 8704	TR 2SC2812-L6-TB
Q701	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6706	TR 2SA1179-M6-TB
Q702	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6706	TR 2SA1179-M6-TB
Q703	405 002 6508	TR 2SA1179-M5-TB
or	405 002 6706	TR 2SA1179-M6-TB
		(RESISTORS)
RB601	4-958V-00701	RESISTOR PACK
RB602	4-958V-00701	RESISTOR PACK
R001	401 037 5400	MT-GLAZE 1K JA 1/10W
R002	401 037 5400	MT-GLAZE 1K JA 1/10W
R003	401 037 5400	MT-GLAZE 1K JA 1/10W
R004	401 037 5400	MT-GLAZE 1K JA 1/10W
R005	401 037 5400	MT-GLAZE 1K JA 1/10W
R006	401 037 5400	MT-GLAZE 1K JA 1/10W
R007	401 037 5400	MT-GLAZE 1K JA 1/10W
R008	401 037 5400	MT-GLAZE 1K JA 1/10W
R009	401 037 5400	MT-GLAZE 1K JA 1/10W
R010	401 037 5400	MT-GLAZE 1K JA 1/10W
R012	401 024 6700	CARBON 100 JA 1/6W
R021	401 024 6700	CARBON 100 JA 1/6W
R101	401 038 0701	MT-GLAZE 2.2K JA 1/10W
R102	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R103	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R201	401 038 6505	MT-GLAZE 47K JA 1/10W
R203	401 037 5806	MT-GLAZE 1M JA 1/10W
R204	401 037 5608	MT-GLAZE 10K JA 1/10W
R205	401 037 5608	MT-GLAZE 10K JA 1/10W
R206	401 037 5608	MT-GLAZE 10K JA 1/10W
R207	401 037 5400	MT-GLAZE 1K JA 1/10W
R208	401 037 5707	MT-GLAZE 100K JA 1/10W
R209	401 037 5608	MT-GLAZE 10K JA 1/10W
R301	401 107 9604	MT-FILM 9.1K DU 1/16W
R302	401 107 9901	MT-FILM 2.2K DU 1/16W
R303	401 107 9802	MT-FILM 11K DU 1/16W
R304	401 037 5806	MT-GLAZE 1M JA 1/10W
R305	401 038 7700	MT-GLAZE 5.6K JA 1/10W
R311	401 037 5400	MT-GLAZE 1K JA 1/10W
R401	401 038 7205	MT-GLAZE 5.1K JA 1/10W
R402	401 038 7205	MT-GLAZE 5.1K JA 1/10W
R601	401 038 6406	MT-GLAZE 4.7K JA 1/10W
R701	401 038 6307	MT-GLAZE 470 JA 1/10W
R702	401 038 6307	MT-GLAZE 470 JA 1/10W
R703	401 037 5400	MT-GLAZE 1K JA 1/10W
R704	401 037 5400	MT-GLAZE 1K JA 1/10W
R705	401 037 5400	MT-GLAZE 1K JA 1/10W
R706	401 037 5400	MT-GLAZE 1K JA 1/10W
		(VARIABLE RESISTOR)
VR301	4-222F-60407	SEMI VR
		(MISCELLANEOUS)
F201	4-953V-29500	FILTER
F301	4-953V-29500	FILTER
F302	4-953V-29500	FILTER
F401	4-953V-29500	FILTER
F402	4-953V-29500	FILTER
F501	4-953V-29500	FILTER
F601	4-953V-29500	FILTER
J001	401 037 5004	MT-GLAZE 0.000 ZA 1/10W

Location	Part No.	Description
P002	4-953V-29500	FILTER
P004	4-953V-29100	FILTER
P005	4-953V-29200	FILTER
P006	4-953V-29200	FILTER
P007	401 024 7004	CARBON 1K JA 1/6W
P008	4-953V-29100	FILTER
P009	4-953V-29200	FILTER
P010	4-953V-29200	FILTER
P011	4-953V-29100	FILTER
P013	401 024 7004	CARBON 1K JA 1/6W
P015	4-953V-29000	FILTER
P016	4-953V-29000	FILTER
P018	4-953V-29000	FILTER
P019	4-953V-29000	FILTER
P023	4-953V-29400	FILTER
P024	401 024 7004	CARBON 1K JA 1/6W
P025	401 024 7004	CARBON 1K JA 1/6W
P026	4-953V-29400	FILTER
P027	4-953V-29500	FILTER
P031	4-953V-29400	FILTER
P033	4-953V-29200	FILTER
P034	4-953V-29200	FILTER
P035	4-953V-29200	FILTER
P036	4-953V-28900	FILTER
P037	4-953V-28900	FILTER
P038	4-953V-28900	FILTER
P039	4-953V-28900	FILTER
P040	4-953V-29500	FILTER
X201	4-225V-27700	CRYSTAL
X301	4-225V-27600	CRYSTAL

REMOTE CONTROL UNIT
NO. 143-9-4100-68920

Location	Part No.	Description
1	143-0-111T-10720	CASE,TOP
2	143-2-161T-86516	PUSH BUTTON
3	4-970V-00600	LCD
4	4-400V-00400	CONNECTOR
5	143-2-352T-24500	SPACER
6	411 104 7008	SCR S-TPG BIN 2X5
7	143-2-132T-12100	IR WINDOW
8	411 100 0706	SCR S-TPG FLT 2X10
9	143-2-128T-03600	LID,BATTERY
10	143-2-125T-09800	CASE,BOTTOM
11	143-0-233V-58321	RM-1 BOARD ASSEMBLY
12	143-2-382T-03400	TERMINAL,POSITIVE(INCLUDE RM-1)
13	143-2-382T-03300	TERMINAL,NEGATIVE(INCLUDE RM-1)
14	143-2-382T-03200	TERMINAL



RM-1 BOARD (REMOTE CONTROL)
NO.143-0-233V-58321

Location	Part No.	Description
		(CAPACITORS)
C1	403 041 9405	ELECT 10MF M 16V
C2	4-224V-15600	TRIMMER
C3	403 017 7404	CERAMIC 22PF J 50V
C4	403 068 9006	CERAMIC 100PF K 50V
C5	403 068 9006	CERAMIC 100PF K 50V
C6	403 108 4305	ELECT 100MF M 4V
C7	403 108 4305	ELECT 100MF M 4V
C8	403 002 1905	CERAMIC 0.01MF K 25V
C9	403 002 1905	CERAMIC 0.01MF K 25V
C10	403 002 1905	CERAMIC 0.01MF K 25V
		(DIODES)
D1	407 017 3701	LED SE303A
D2	407 017 3701	LED SE303A
D3	407 008 5103	DIODE MA151K
		(INTEGRATED CIRCUIT)
IC1	409 128 4608	IC MN158452ESK
		(TRANSISTOR)
Q1	405 060 3303	TR UN1231
		(RESISTORS)
R1	401 012 2202	CARBON 1.8 JA 1/4W
R2	401 012 2202	CARBON 1.8 JA 1/4W
R9	401 035 4603	MT-GLAZE 100 JA 1/8W
R10	401 036 8501	MT-GLAZE 47K JA 1/8W
R11	401 036 8501	MT-GLAZE 47K JA 1/8W
R12	401 036 8501	MT-GLAZE 47K JA 1/8W
R13	401 035 8205	MT-GLAZE 150K JA 1/8W
		(MISCELLANEOUS)
X1	4-266V-01600	CERAMIC RESONATOR
X2	4-225V-23100	CRYSTAL 32KHZ

SANYO

SANYO Electric Co., Ltd.
Osaka, Japan

A11300 Feb./'88/2300 HA Printed in Japan

BLOCK DIAGRAMS, CIRCUIT DIAGRAMS & PRINTED CIRCUIT BOARDS

VHR-D700EX (Europe)
VHR-D700G (West Germany)

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A11300 BP2DHF/G,EX 82H

REFERENCE NO. WM-21615

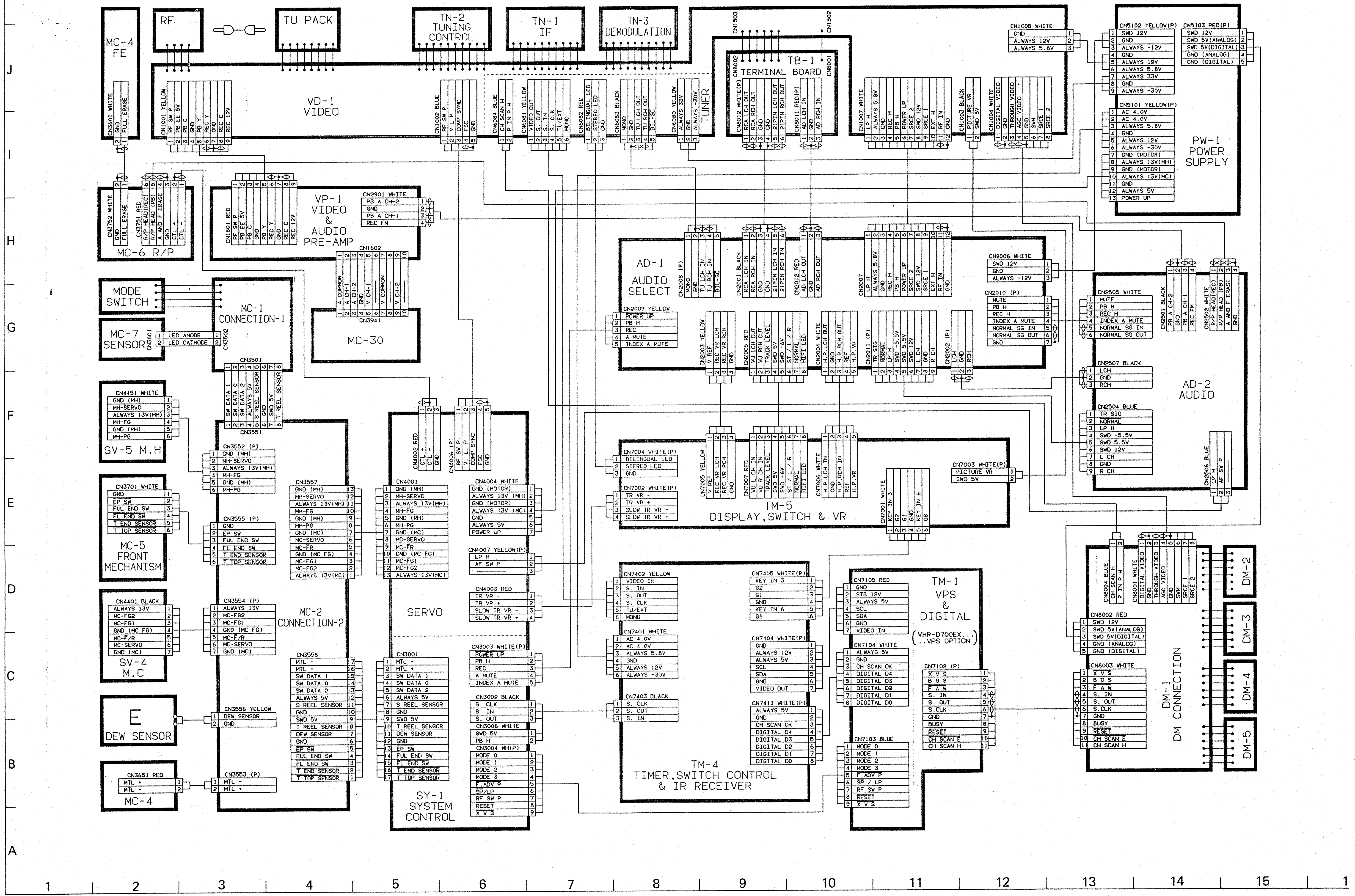
NOTES:

1. All resistance values in "OHMS" unless otherwise noted. (K=1,000 M=1,000,000)
2. All capacitance values in "μfd" unless otherwise noted.
   p=pico farad
3. All inductance values in "mH" unless otherwise noted. μ=micro henry

PRODUCT SAFETY NOTICE

THE COMPONENTS DESIGNATED BY A SYMBOL (⚠) IN THIS SCHEMATIC DIAGRAM DESIGNATES COMPONENTS WHOSE VALUE ARE OF SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. SHOULD ANY COMPONENT DESIGNATED BY A SIMBOL NEED TO BE REPLACED, USE ONLY THE PART DESIGNATED IN THE PARTS LIST. DO NOT DEVIATE FROM THE RESISTANCE, WATTAGE AND VOLTAGE RATINGS SHOWN.

OVERALL WIRING DIAGRAM



MC-4 FE
RF
TU PACK
TN-2 TUNING CONTROL
TN-1 IF
TN-3 DEMODULATION
VD-1 VIDEO
TUNER
TB-1 TERMINAL BOARD
PW-1 POWER SUPPLY
MC-6 R/P
VP-1 VIDEO & AUDIO PRE-AMP
MODE SWITCH
MC-7 SENSOR
MC-1 CONNECTION-1
MC-30
AD-1 AUDIO SELECT
AD-2 AUDIO
SV-5 M.H
MC-5 FRONT MECHANISM
SV-4 M.C
E DEW SENSOR
MC-4
MC-2 CONNECTION-2
SERVO
SY-1 SYSTEM CONTROL
TM-5 DISPLAY,SWITCH & VR
TM-4 TIMER,SWITCH CONTROL & IR RECEIVER
TM-1 VPS & DIGITAL
(VHR-D700EX... ..VPS OPTION)
DM-1 DM CONNECTION
DM-2
DM-3
DM-4
DM-5
CN3601 WHITE
CN1001 YELLOW
CN1002 BLUE
CN6084 BLUE
CN6081 YELLOW
CN6082 RED
CN6083 BLACK
CN6080 YELLOW
CN8012 WHITE(P)
CN8011 RED(P)
CN1007 WHITE
CN1003 BLACK
CN1004 WHITE
CN1005 WHITE
CN5102 YELLOW(P)
CN5103 RED(P)
CN5101 YELLOW(P)
CN3752 WHITE
CN3751 RED
CN1601 RED
CN2901 WHITE
CN1602
CN3941
CN3801
CN3502
CN3501
CN3551
CN4451 WHITE
CN3552 (P)
CN3701 WHITE
CN3555 (P)
CN4401 BLACK
CN3554 (P)
CN3556 YELLOW
CN3651 RED
CN3553 (P)
CN3557
CN3558
CN4002 RED
CN4006 (P)
CN4001
CN4004 WHITE
CN4007 YELLOW(P)
CN4003 RED
CN3001
CN3003 WHITE(P)
CN3002 BLACK
CN3006 WHITE
CN3004 WHI(P)
CN2008 (P)
CN2001 BLACK
CN2012 RED
CN2007
CN2006 WHITE
CN2010 (P)
CN2009 YELLOW
CN2003 YELLOW
CN2005 RED
CN2004 WHITE
CN2011 (P)
CN2002 (P)
CN2505 WHITE
CN2501 BLACK
CN2502 WHITE
CN2507 BLACK
CN2504 BLUE
CN2506 BLUE
CN7004 WHITE(P)
CN7002 WHITE(P)
CN7005 YELLOW
CN7007 RED
CN7006 WHITE
CN7003 WHITE(P)
CN7001 WHITE
CN7402 YELLOW
CN7401 WHITE
CN7403 BLACK
CN7405 WHITE(P)
CN7404 WHITE(P)
CN7411 WHITE(P)
CN7105 RED
CN7104 WHITE
CN7102 (P)
CN7103 BLUE
CN8004 BLUE
CN8001 WHITE
CN8002 RED
CN8003 WHITE
CN1503
CN1502
CN8002
CN8001
K
J
I
H
G
F
E
D
C
B
A
1
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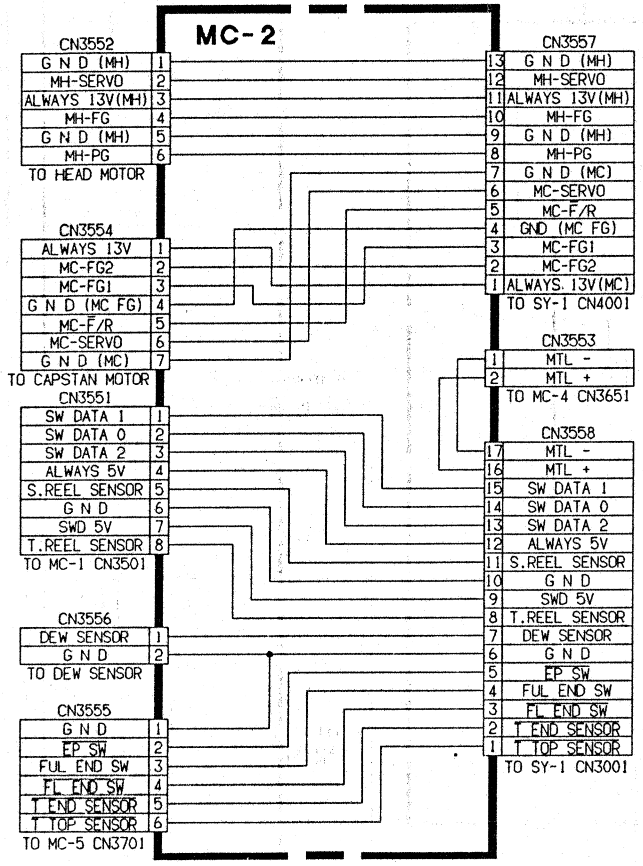
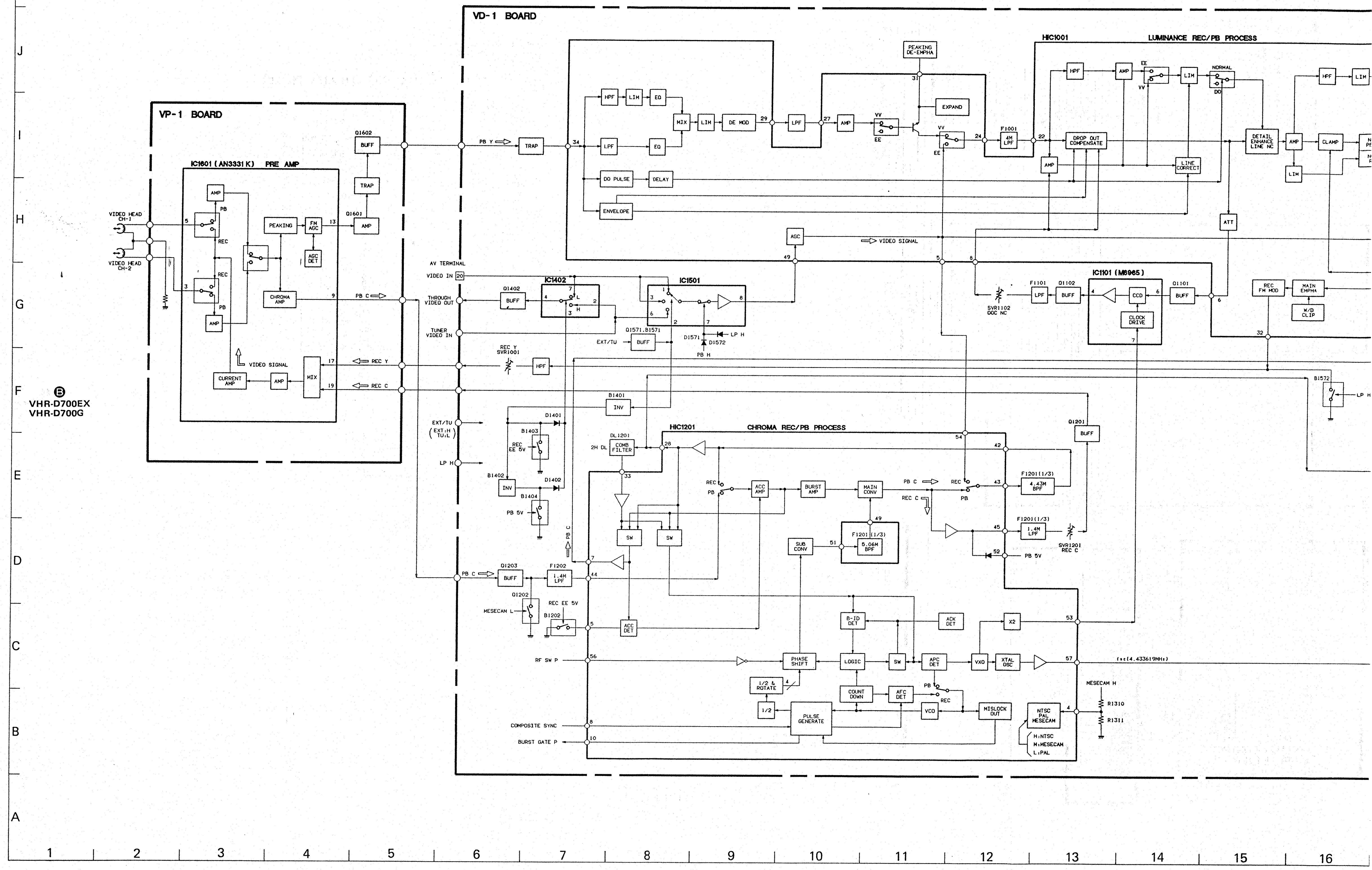
P.C.B. MC-2 CONNECTION CIRCUIT (143-0-233V-26750)

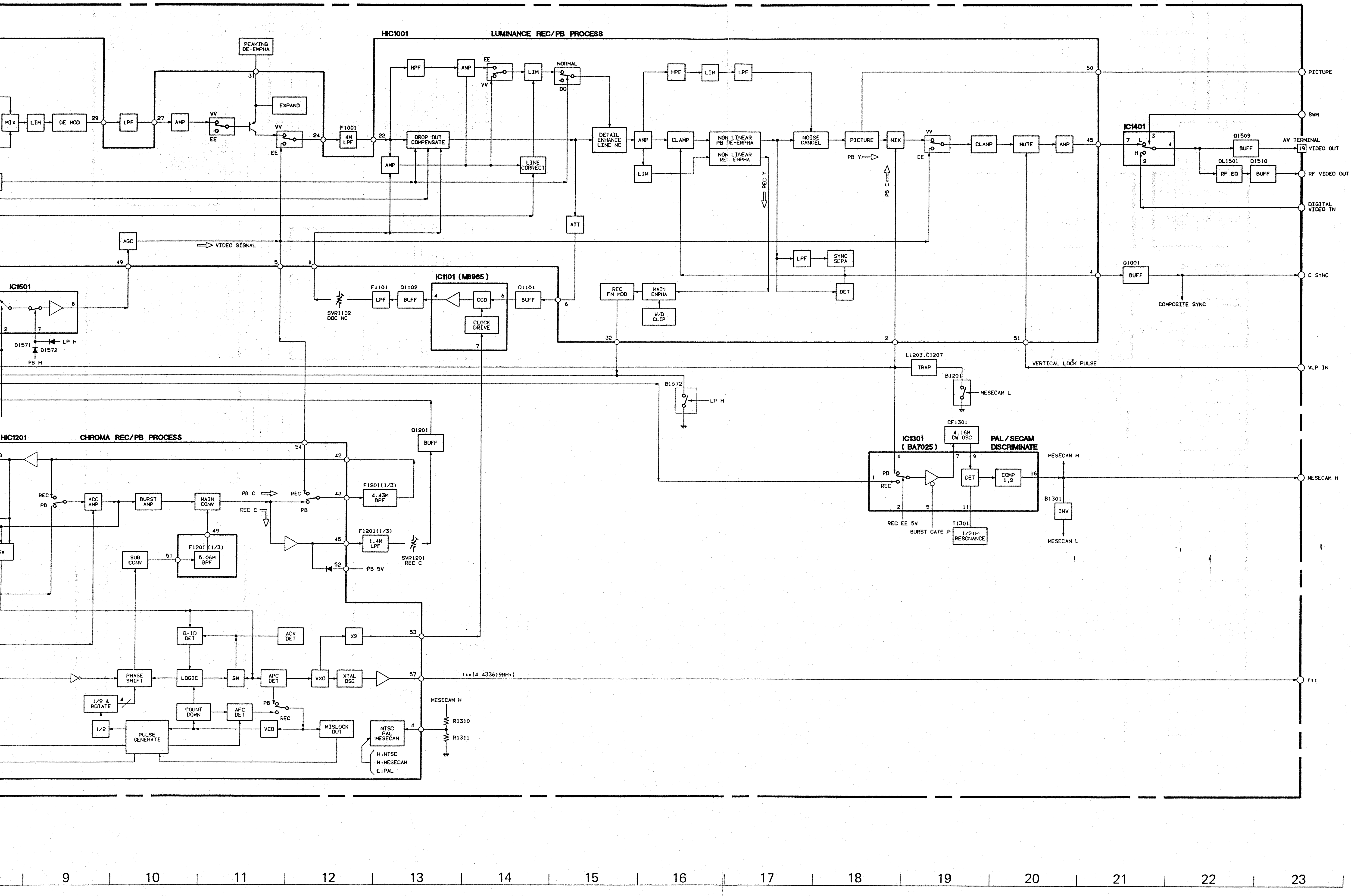

MC-2
CN3552
G N D (MH) 1
MH-SERVO 2
ALWAYS 13V(MH) 3
MH-FG 4
G N D (MH) 5
MH-PG 6
TO HEAD MOTOR
CN3554
ALWAYS 13V 1
MC-FG2 2
MC-FG1 3
G N D (MC FG) 4
MC-F/R 5
MC-SERVO 6
G N D (MC) 7
TO CAPSTAN MOTOR
CN3551
SW DATA 1 1
SW DATA 0 2
SW DATA 2 3
ALWAYS 5V 4
S.REEL SENSOR 5
G N D 6
SWD 5V 7
T.REEL SENSOR 8
TO MC-1 CN3501
CN3556
DEW SENSOR 1
G N D 2
TO DEW SENSOR
CN3555
G N D 1
EP SW 2
FUL END SW 3
FL END SW 4
T END SENSOR 5
T TOP SENSOR 6
TO MC-5 CN3701
CN3557
13 G N D (MH)
12 MH-SERVO
11 ALWAYS 13V(MH)
10 MH-FG
9 G N D (MH)
8 MH-PG
7 G N D (MC)
6 MC-SERVO
5 MC-F/R
4 GND (MC FG)
3 MC-FG1
2 MC-FG2
1 ALWAYS 13V(MC)
TO SY-1 CN4001
CN3553
1 MTL -
2 MTL +
TO MC-4 CN3651
CN3558
17 MTL -
16 MTL +
15 SW DATA 1
14 SW DATA 0
13 SW DATA 2
12 ALWAYS 5V
11 S.REEL SENSOR
10 G N D
9 SWD 5V
8 T.REEL SENSOR
7 DEW SENSOR
6 G N D
5 EP SW
4 FUL END SW
3 FL END SW
2 T END SENSOR
1 T TOP SENSOR
TO SY-1 CN3001

Ⓐ
VHR-D700EX
VHR-D700G

VIDEO CIRCUIT BLOCK DIAGRAM (VD-1 & VP-1 BOARDS)


Ⓑ
VHR-D700EX
VHR-D700G
VP-1 BOARD
IC1601 (AN3331K) PRE AMP
VIDEO HEAD CH-1
VIDEO HEAD CH-2
AMP
PB
REC
PEAKING
FM AGC
AGC DET
CHROMA AMP
Q1602
BUFF
TRAP
Q1601
AMP
CURRENT AMP
MIX
VIDEO SIGNAL
PB C
REC Y
REC C
VD-1 BOARD
PB Y
TRAP
HPF
LIM
EQ
LPF
MIX
DE MOD
DO PULSE
DELAY
ENVELOPE
AGC
VIDEO SIGNAL
PEAKING DE-EMPHA
EXPAND
VV
EE
F1001
4M LPF
HIC1001
LUMINANCE REC/PB PROCESS
DROP OUT COMPENSATE
LINE CORRECT
NORMAL
DO
DETAIL ENHANCE LINE NC
CLAMP
ATT
IC1101 (M6965)
CCD
CLOCK DRIVE
F1101
Q1102
Q1101
SVR1102 DOC NC
REC FM MOD
MAIN EMPHA
W/D CLIP
B1572
LP H
AV TERMINAL
VIDEO IN
THROUGH VIDEO OUT
TUNER VIDEO IN
EXT/TU (EXT:H TU:L)
LP H
IC1402
Q1402
IC1501
Q1571, B1571
EXT/TU
D1571
D1572
PB H
REC Y SVR1001
B1401
INV
D1401
B1403
REC EE 5V
B1402
D1402
B1404
PB 5V
DL1201
2H DL
COMB FILTER
HIC1201
CHROMA REC/PB PROCESS
ACC AMP
BURST AMP
MAIN CONV
SUB CONV
F1201 (1/3)
5.06M BPF
4.43M BPF
1.4M LPF
SVR1201 REC C
Q1201
SW
ACC DET
Q1203
F1202
1.4M LPF
Q1202
MESECAM L
B1202
RF SW P
COMPOSITE SYNC
BURST GATE P
PHASE SHIFT
1/2 & ROTATE
1/2
PULSE GENERATE
B-ID DET
ACK DET
LOGIC
COUNT DOWN
AFC DET
APC DET
VXO
XTAL OSC
X2
VCO
MISLOCK OUT
NTSC PAL MESECAM
H:NTSC
M:MESECAM
L:PAL
MESECAM H
R1310
R1311
fsc(4.433619MHz)
K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

VIDEO CIRCUIT BLOCK DIAGRAM (VD-1 & VP-1 BOARDS)


HIC1001
LUMINANCE REC/PB PROCESS
PEAKING DE-EMPHA
MIX
LIM
DE MOD
29
LPF
27
AMP
VV
EE
31
EXPAND
24
F1001
4M LPF
22
HPF
AMP
EE
VV
LIM
NORMAL
DO
DROP OUT COMPENSATE
AMP
LINE CORRECT
DETAIL ENHANCE LINE NC
AMP
LIM
HPF
LIM
LPF
CLAMP
NON LINEAR PB DE-EMPHA
NON LINEAR REC EMPHA
NOISE CANCEL
PICTURE
MIX
PB Y
REC Y
PB C
CLAMP
MUTE
AMP
50
45
ATT
AGC
VIDEO SIGNAL
49
5
8
IC1501
8
2
7
D1571
D1572
LP H
PB H
SVR1102 DOC NC
F1101
LPF
Q1102
BUFF
IC1101 (M6965)
4
CCD
6
CLOCK DRIVE
7
Q1101
BUFF
6
REC FM MOD
MAIN EMPHA
W/D CLIP
LPF
SYNC SEPA
DET
32
2
51
4
IC1401
7
L
3
H
2
4
Q1509
BUFF
DL1501
RF EQ
Q1510
BUFF
Q1001
BUFF
COMPOSITE SYNC
VERTICAL LOCK PULSE
L1203.C1207
TRAP
B1201
MESECAM L
B1572
LP H
PICTURE
SWM
AV TERMINAL
19
VIDEO OUT
RF VIDEO OUT
DIGITAL VIDEO IN
C SYNC
VLP IN
MESECAM H
fsc
HIC1201
CHROMA REC/PB PROCESS
54
42
REC
PB
ACC AMP
BURST AMP
MAIN CONV
PB C
REC
PB
43
F1201(1/3)
4.43M BPF
Q1201
BUFF
REC C
49
F1201(1/3)
5.06M BPF
SUB CONV
51
45
F1201(1/3)
1.4M LPF
SVR1201 REC C
52
PB 5V
CF1301
4.16M CW OSC
IC1301 (BA7025)
PAL/SECAM DISCRIMINATE
4
7
9
PB
REC
1
DET
COMP 1,2
16
MESECAM H
B1301
INV
MESECAM L
2
5
11
REC EE 5V
BURST GATE P
T1301
1/2fH RESONANCE
B-ID DET
ACK DET
X2
53
PHASE SHIFT
LOGIC
SW
APC DET
VXO
XTAL OSC
57
fsc(4.433619MHz)
1/2 & ROTATE
COUNT DOWN
AFC DET
PB
REC
1/2
PULSE GENERATE
VCO
MISLOCK OUT
NTSC PAL MESECAM
4
H:NTSC
M:MESECAM
L:PAL
MESECAM H
R1310
R1311
9
10
11
12
13
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15
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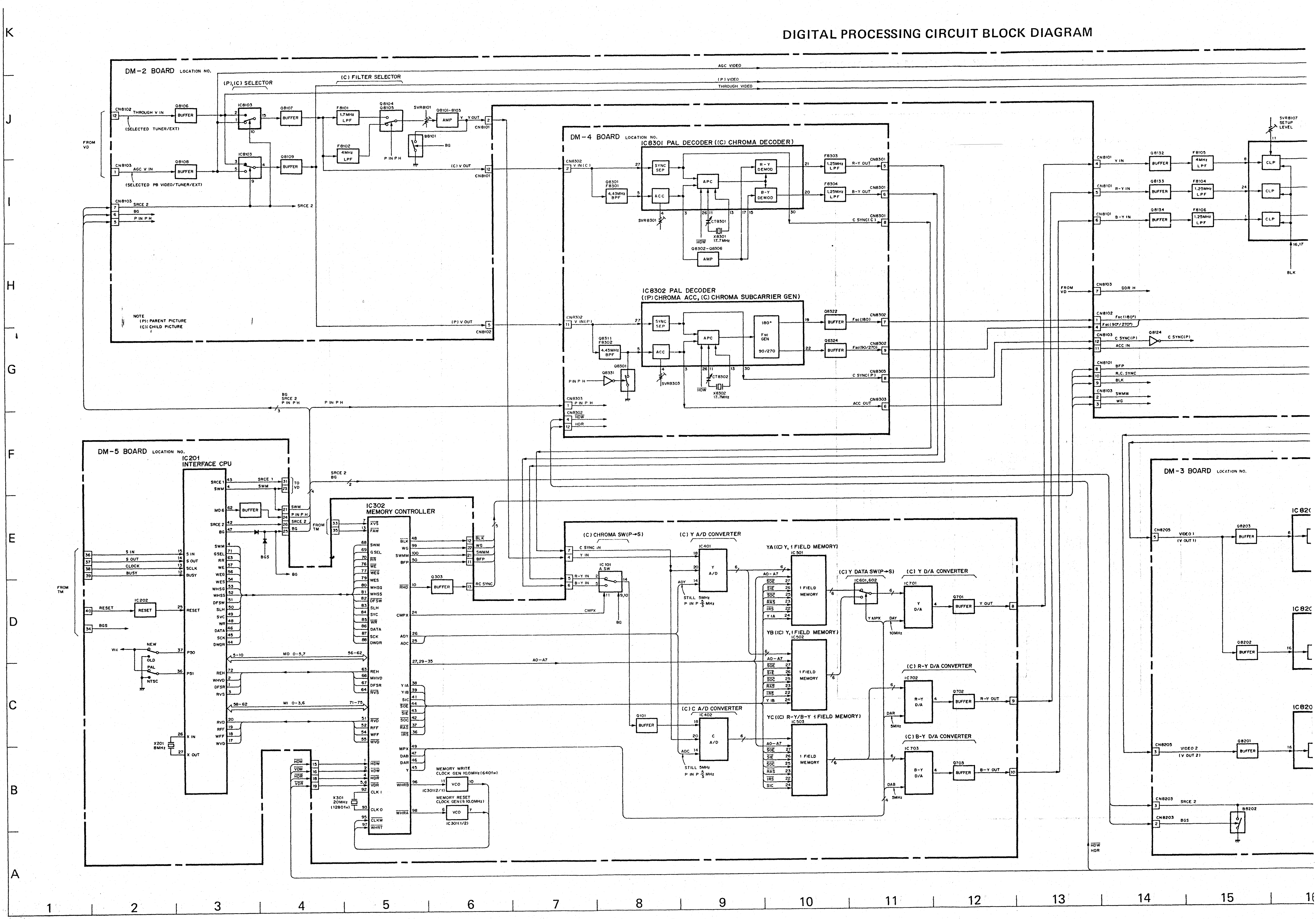
21
22
23

DIGITAL PROCESSING CIRCUIT BLOCK DIAGRAM



DM-2 BOARD
(P),(C) SELECTOR
(C) FILTER SELECTOR
CN8102
THROUGH V IN
(SELECTED TUNER/EXT)
CN8103
AGC V IN
(SELECTED PB VIDEO/TUNER/EXT)
FROM VD
Q8106
Q8108
IC8103
Q8107
Q8109
BUFFER
F8101 1.7MHz LPF
F8102 4MHz LPF
Q8104 Q8105
SVR8101
Q8101-8103
AMP
Y OUT
CN8101
(C) V OUT
(P) V OUT
B8101
BG
P IN P H
SRCE 2
AGC VIDEO
(P) VIDEO
THROUGH VIDEO
NOTE
(P): PARENT PICTURE
(C): CHILD PICTURE
DM-4 BOARD
IC8301 PAL DECODER ((C) CHROMA DECODER)
CN8302
V IN (C)
V IN (P)
Q8301 F8301 4.43MHz BPF
SYNC SEP
ACC
APC
R-Y DEMOD
B-Y DEMOD
SVR8301
CT8301
X8301 17.7MHz
HDW
Q8302-Q8306
AMP
F8303 1.25MHz LPF
F8304 1.25MHz LPF
R-Y OUT
B-Y OUT
C SYNC (C)
CN8301
IC8302 PAL DECODER
((P) CHROMA ACC, (C) CHROMA SUBCARRIER GEN)
Q8311 F8302 4.43MHz BPF
180° Fsc GEN 90/270
Q8322
Q8324
Fsc(180)
Fsc(90/270)
C SYNC (P)
ACC OUT
CT8302
X8302 17.7MHz
SVR8303
Q8331
Q8301
CN8303
CN8302
HDW
HDR
SRCE 2
P IN P H
DM-5 BOARD
IC201 INTERFACE CPU
SRCE 1
SWM
MO6
BUFFER
SRCE 2
BG
BGS
S IN
S OUT
CLOCK
BUSY
SCLK
FROM TM
TO VD
RESET
IC202
NEW
OLD
PAL
NTSC
P50
P51
Vcc
X201 8MHz
X IN
X OUT
GSEL
RR
WE
WEG
WES
WHSG
WHSS
DFSW
SLH
SVC
WR
DATA
SCK
DWDR
MO 0-5,7
MI 0-3,6
REH
WHVD
DFSR
RVS
RVD
RFF
WFF
WVD
IC302 MEMORY CONTROLLER
XVS
FAW
BLK
WG
SWMM
BFP
RHD
Q303
RC SYNC
CMPX
ADY
ADC
A0-A7
YIA
YIB
SIC
SOE
SIE
SOC
RAS
IRS
MPX
DAB
DAR
Y
HDW
VDW
HDR
VDR
CLK I
CLK O
CLKW
WHRT
WHRB
WHRA
X301 20MHz (1280fH)
MEMORY WRITE CLOCK GEN 10.0MHz (640fH)
MEMORY RESET CLOCK GEN (10.0MHz)
VCO
IC301(2/1)
IC301(1/2)
(C) CHROMA SW(P→S)
C SYNC IN
Y IN
R-Y IN
B-Y IN
IC101 A SW
Q101
(C) Y A/D CONVERTER
IC401
Y A/D
STILL 5MHz
P IN P 5/3 MHz
(C) C A/D CONVERTER
IC402
C A/D
YA ((C) Y, 1 FIELD MEMORY)
IC501
1 FIELD MEMORY
YB ((C) Y, 1 FIELD MEMORY)
IC502
YC ((C) R-Y/B-Y 1 FIELD MEMORY)
IC503
(C) Y DATA SW(P→S)
IC601,602
Y MPX
DAY
10MHz
(C) Y D/A CONVERTER
IC701
Y D/A
Q701
Y OUT
(C) R-Y D/A CONVERTER
IC702
R-Y D/A
Q702
R-Y OUT
(C) B-Y D/A CONVERTER
IC703
B-Y D/A
Q703
B-Y OUT
5MHz
CN8101
Y IN
R-Y IN
B-Y IN
Q8132
Q8133
Q8134
F8105 4MHz LPF
F8104 1.25MHz LPF
F8106 1.25MHz LPF
CLP
SVR8107 SETUP LEVEL
BLK
FROM VD
CN8103
DDR H
CN8102
Fsc(180°)
Fsc(90°/270°)
Q8124
C SYNC(P)
ACC IN
BFP
R.C. SYNC
SWMM
WG
DM-3 BOARD
CN8205
VIDEO 1
(V OUT 1)
VIDEO 2
(V OUT 2)
Q8203
Q8202
Q8201
CN8203
SRCE 2
BGS
B8202
HDW
HDR
K
J
I
H
G
F
E
D
C
B
A
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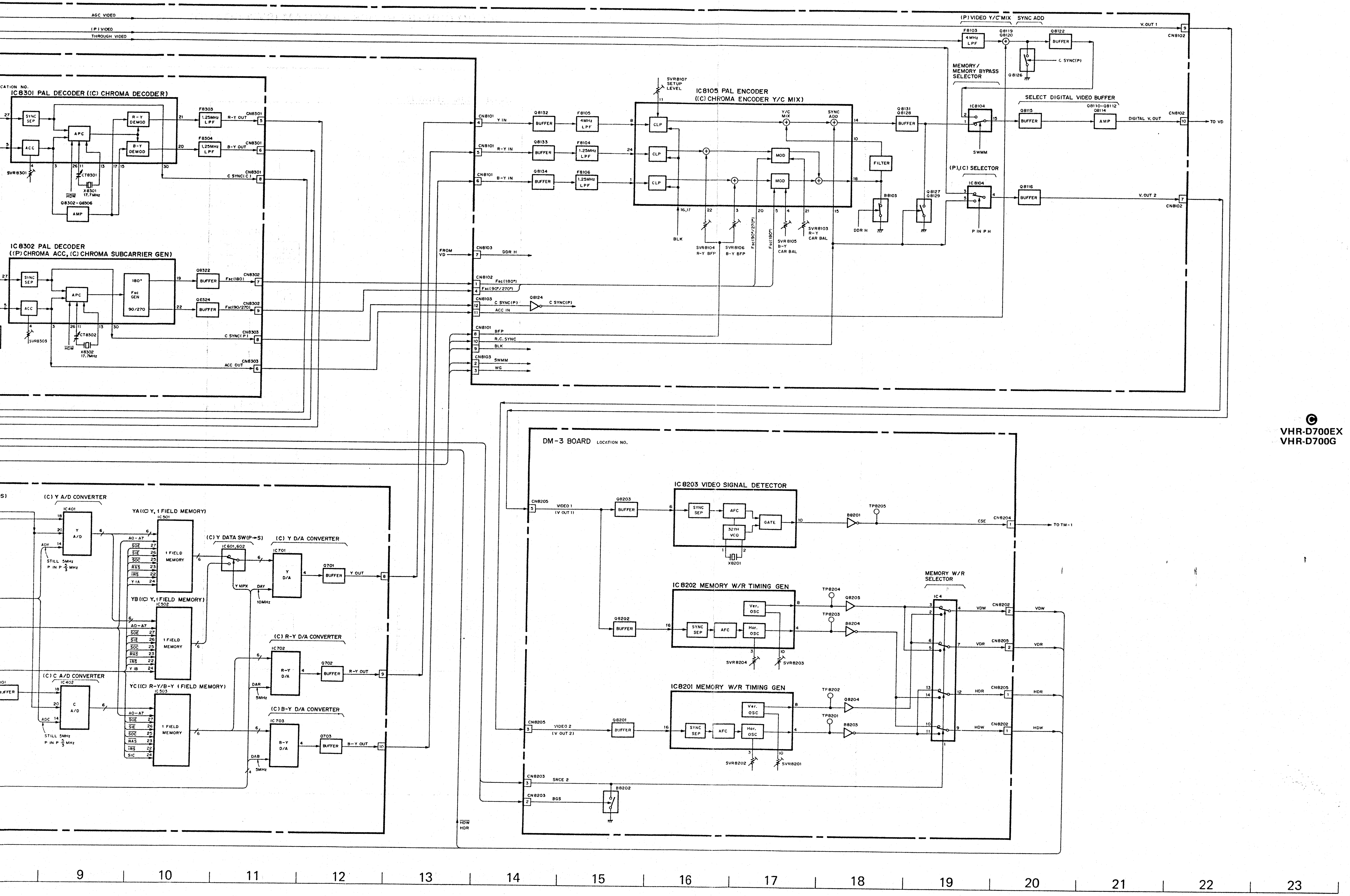
DIGITAL PROCESSING CIRCUIT BLOCK DIAGRAM


AGC VIDEO
(P) VIDEO
THROUGH VIDEO
IC8301 PAL DECODER ((C) CHROMA DECODER)
SYNC SEP
ACC
APC
R-Y DEMOD
B-Y DEMOD
SVR8301
CT8301
X8301 17.7MHz
Q8302-Q8306
AMP
F8303 1.25MHz LPF
F8304 1.25MHz LPF
R-Y OUT
B-Y OUT
C SYNC(C)
CN8301
IC8302 PAL DECODER ((P) CHROMA ACC, (C) CHROMA SUBCARRIER GEN)
180°
Fsc GEN
90/270
SVR8303
CT8302
X8302 17.7MHz
Q8322
Q8324
BUFFER
Fsc(180)
Fsc(90/270)
C SYNC(P)
ACC OUT
CN8302
CN8303
CN8101
Y IN
R-Y IN
B-Y IN
Q8132
Q8133
Q8134
F8105 4MHz LPF
F8104 1.25MHz LPF
F8106 1.25MHz LPF
SVR8107 SETUP LEVEL
IC8105 PAL ENCODER ((C) CHROMA ENCODER Y/C MIX)
CLP
MOD
Y/C MIX
SYNC ADD
BLK
SVR8104 R-Y BFP
SVR8106 B-Y BFP
Fsc(90°/270°)
Fsc(180°)
SVR8105 B-Y CAR BAL
SVR8103 R-Y CAR BAL
FILTER
B8103
DDR H
Q8131 Q8128
Q8127 Q8129
(P) VIDEO Y/C MIX
SYNC ADD
F8103 4MHz LPF
Q8119 Q8120
Q8122
Q8126
C SYNC(P)
MEMORY/ MEMORY BYPASS SELECTOR
IC8104
SWMM
SELECT DIGITAL VIDEO BUFFER
Q8115
Q8110-Q8112 Q8114
AMP
DIGITAL V. OUT
(P),(C) SELECTOR
Q8116
P IN P H
V. OUT 1
V. OUT 2
CN8102
TO VD
FROM VD
CN8103
DDR H
Fsc(180°)
Fsc(90°/270°)
Q8124
C SYNC(P)
ACC IN
BFP
R.C. SYNC
BLK
SWMM
WG
DM-3 BOARD LOCATION NO.
CN8205
VIDEO 1 (V OUT 1)
Q8203
IC8203 VIDEO SIGNAL DETECTOR
SYNC SEP
AFC
GATE
32fH VCO
X8201
B8201
TP8205
CSE
CN8204
TO TM-1
IC8202 MEMORY W/R TIMING GEN
Q8202
Ver. OSC
Hor. OSC
SVR8204
SVR8203
TP8204
TP8203
Q8205
B8204
MEMORY W/R SELECTOR
IC4
VDW
VDR
HDR
HDW
CN8202
CN8205
IC8201 MEMORY W/R TIMING GEN
VIDEO 2 (V OUT 2)
Q8201
SVR8202
SVR8201
TP8202
TP8201
Q8204
B8203
CN8203
SRCE 2
BGS
B8202
HDW
HDR
(C) Y A/D CONVERTER
IC401
Y A/D
ADY
STILL 5MHz
P IN P 5/3 MHz
YA((C) Y, 1 FIELD MEMORY)
IC501
1 FIELD MEMORY
A0-A7
SOE
SIE
SOC
RAS
IRS
Y1A
(C) Y DATA SW(P↔S)
IC601,602
Y MPX
(C) Y D/A CONVERTER
IC701
Y D/A
DAY
10MHz
Q701
BUFFER
Y OUT
YB((C) Y, 1 FIELD MEMORY)
IC502
Y1B
(C) R-Y D/A CONVERTER
IC702
R-Y D/A
DAR
5MHz
Q702
R-Y OUT
(C) C A/D CONVERTER
IC402
C A/D
ADC
YC((C) R-Y/B-Y 1 FIELD MEMORY)
IC503
SIC
(C) B-Y D/A CONVERTER
IC703
B-Y D/A
DAB
Q703
B-Y OUT
9
10
11
12
13
14
15
16
17
18
19
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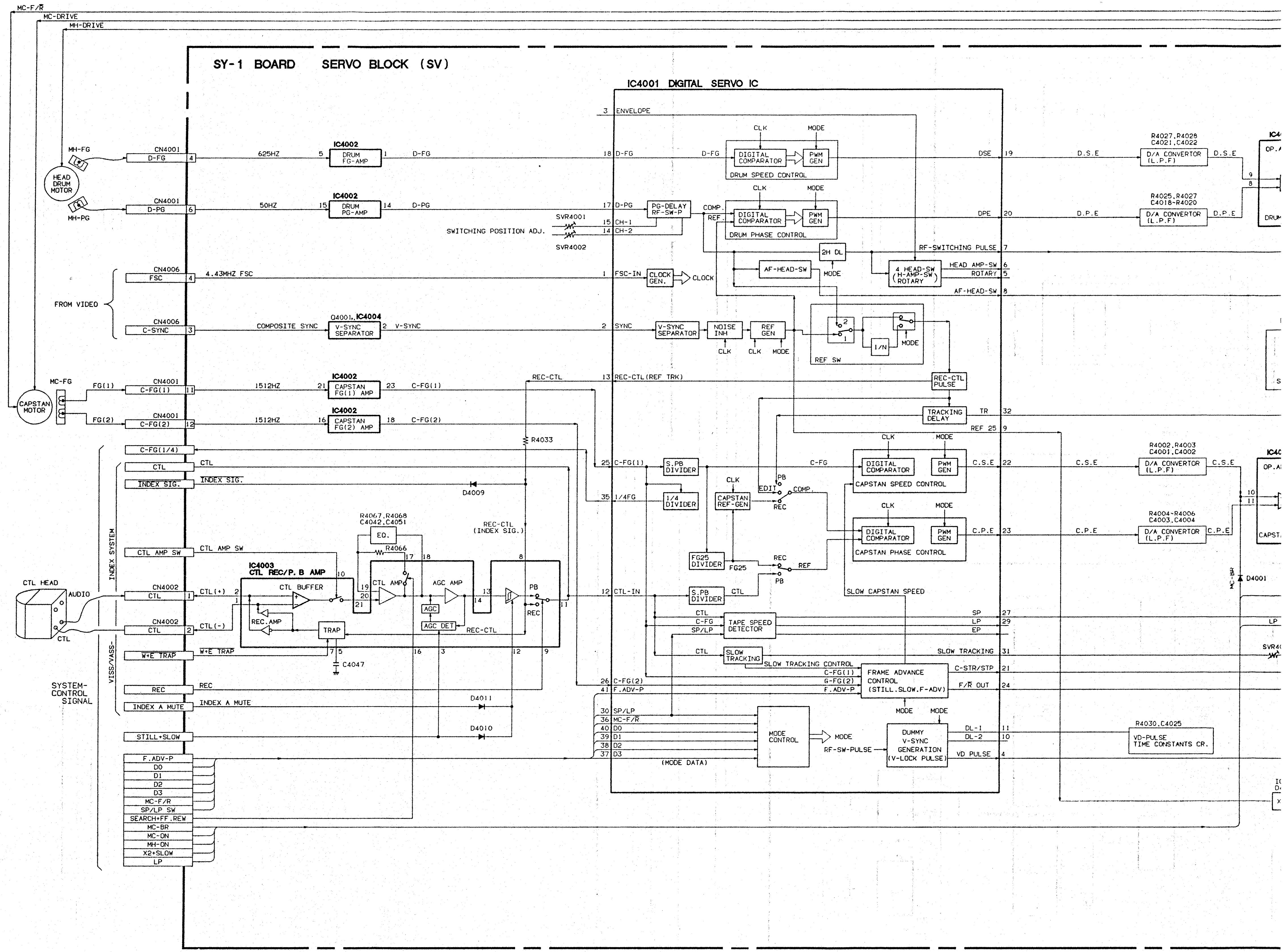
23

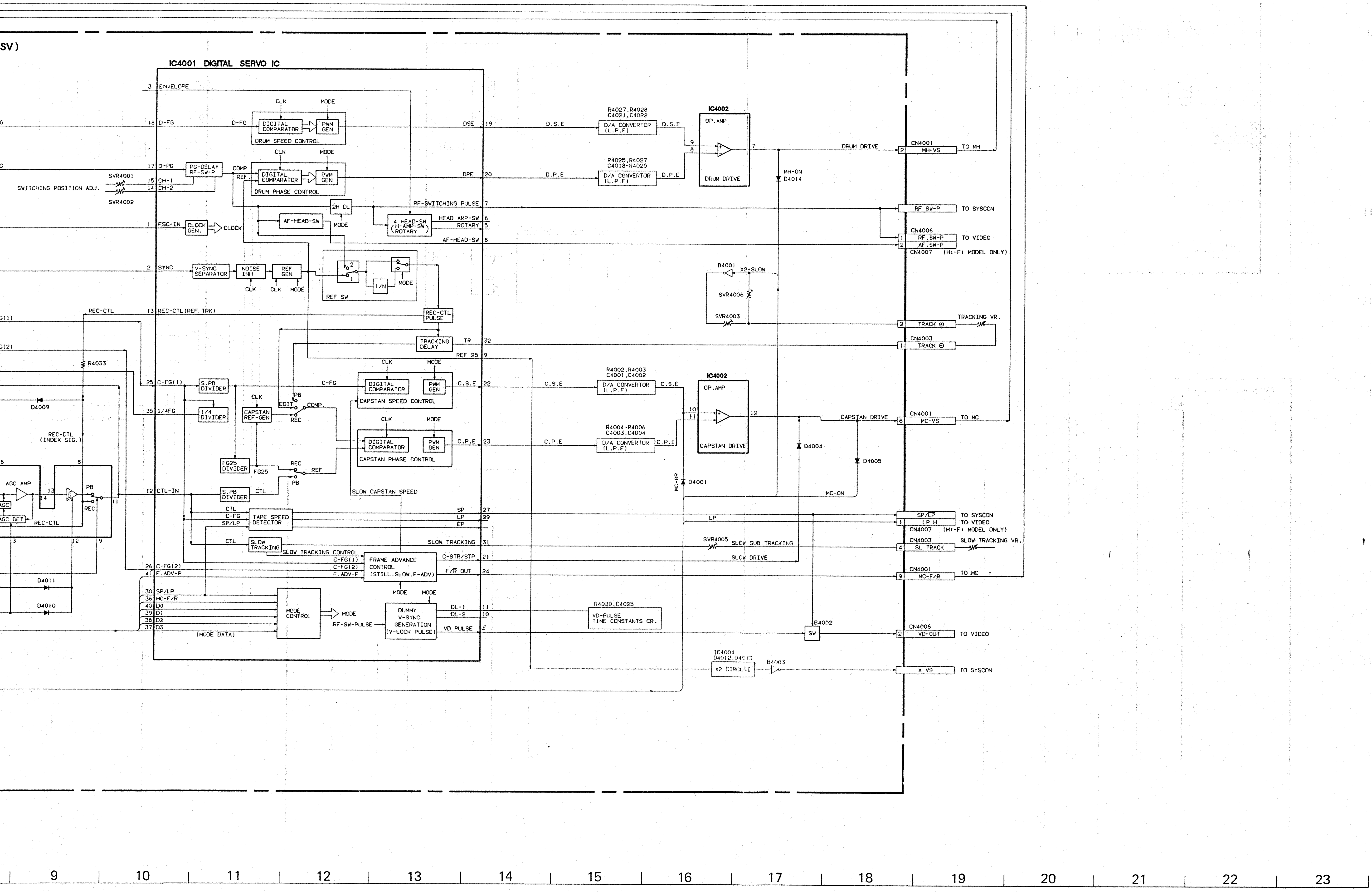
VHR-D700EX
VHR-D700G

SERVO CIRCUIT BLOCK DIAGRAM (SY-1 BOARD)

D
VHR-D700EX
VHR-D700G


SY-1 BOARD SERVO BLOCK (SV)
IC4001 DIGITAL SERVO IC
MC-F/R̄
MC-DRIVE
MH-DRIVE
MH-FG
HEAD DRUM MOTOR
MH-PG
CN4001 D-FG
CN4001 D-PG
625HZ
50HZ
IC4002 DRUM FG-AMP
IC4002 DRUM PG-AMP
D-FG
D-PG
ENVELOPE
SWITCHING POSITION ADJ.
SVR4001
SVR4002
CH-1
CH-2
PG-DELAY RF-SW-P
COMP.
REF
CLK
MODE
DIGITAL COMPARATOR
PWM GEN
DRUM SPEED CONTROL
DRUM PHASE CONTROL
DSE
DPE
D.S.E
D.P.E
R4027,R4028 C4021,C4022
R4025,R4027 C4018-R4020
D/A CONVERTOR (L.P.F)
2H DL
RF-SWITCHING PULSE
AF-HEAD-SW
4 HEAD-SW (H-AMP-SW) ROTARY
HEAD AMP-SW
ROTARY
AF-HEAD-SW
FROM VIDEO
CN4006 FSC
4.43MHZ FSC
FSC-IN
CLOCK GEN.
CLOCK
CN4006 C-SYNC
COMPOSITE SYNC
Q4001, IC4004 V-SYNC SEPARATOR
V-SYNC
SYNC
NOISE INH
REF GEN
REF SW
1/N
MC-FG
FG(1)
FG(2)
CAPSTAN MOTOR
CN4001 C-FG(1)
CN4001 C-FG(2)
1512HZ
IC4002 CAPSTAN FG(1) AMP
IC4002 CAPSTAN FG(2) AMP
C-FG(1)
C-FG(2)
REC-CTL
REC-CTL(REF TRK)
REC-CTL PULSE
TRACKING DELAY
TR
REF 25
R4033
C-FG(1/4)
CTL
INDEX SIG.
D4009
INDEX SYSTEM
CTL AMP SW
S.PB DIVIDER
1/4 DIVIDER
1/4FG
C-FG
CAPSTAN REF-GEN
PB
EDIT
REC
CAPSTAN SPEED CONTROL
CAPSTAN PHASE CONTROL
C.S.E
C.P.E
R4002,R4003 C4001,C4002
R4004-R4006 C4003,C4004
R4067,R4068 C4042,C4051
EQ.
R4066
REC-CTL (INDEX SIG.)
IC4003 CTL REC/P.B AMP
CTL BUFFER
CTL AMP
AGC AMP
AGC
AGC DET
REC.AMP
TRAP
FG25 DIVIDER
FG25
CTL HEAD
AUDIO
CN4002 CTL
CTL(+)
CTL(-)
CTL-IN
SLOW CAPSTAN SPEED
TAPE SPEED DETECTOR
SP/LP
SP
LP
EP
SLOW TRACKING
SLOW TRACKING CONTROL
W+E TRAP
C4047
VISS/VASS
SYSTEM-CONTROL SIGNAL
REC
INDEX A MUTE
D4011
D4010
STILL+SLOW
FRAME ADVANCE CONTROL (STILL.SLOW.F-ADV)
C-STR/STP
F/R̄ OUT
F.ADV-P
MODE CONTROL
MODE
RF-SW-PULSE
DUMMY V-SYNC GENERATION (V-LOCK PULSE)
DL-1
DL-2
VD PULSE
R4030,C4025
VD-PULSE TIME CONSTANTS CR.
(MODE DATA)
D0
D1
D2
D3
MC-F/R
SP/LP SW
SEARCH+FF.REW
MC-BR
MC-ON
MH-ON
X2+SLOW
LP
D4001
MC-BR
SVR4
K J I H G F E D C B A
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

SERVO CIRCUIT BLOCK DIAGRAM (SY-1 BOARD)


SV)
IC4001 DIGITAL SERVO IC
3 ENVELOPE
18 D-FG
D-FG
CLK
MODE
DIGITAL COMPARATOR
PWM GEN
DRUM SPEED CONTROL
DSE 19
17 D-PG
PG-DELAY RF-SW-P
COMP.
REF.
DRUM PHASE CONTROL
DPE 20
SVR4001
SWITCHING POSITION ADJ.
15 CH-1
14 CH-2
SVR4002
2H DL
RF-SWITCHING PULSE 7
AF-HEAD-SW
MODE
4 HEAD-SW (H-AMP-SW) (ROTARY)
HEAD AMP-SW 6
ROTARY 5
AF-HEAD-SW 8
1 FSC-IN
CLOCK GEN.
CLOCK
2 SYNC
V-SYNC SEPARATOR
NOISE INH
REF GEN
CLK
CLK
MODE
1/N
REF SW
REC-CTL
13 REC-CTL(REF TRK)
REC-CTL PULSE
TRACKING DELAY
TR 32
REF 25 9
R4033
25 C-FG(1)
S.PB DIVIDER
C-FG
DIGITAL COMPARATOR
PWM GEN
C.S.E 22
CAPSTAN SPEED CONTROL
D4009
EDIT
PB
COMP.
35 1/4FG
1/4 DIVIDER
CAPSTAN REF-GEN
REC
CAPSTAN PHASE CONTROL
C.P.E 23
REC-CTL (INDEX SIG.)
FG25 DIVIDER
FG25
REC
REF
PB
AGC AMP
AGC
AGC DET
REC-CTL
12 CTL-IN
S.PB DIVIDER
CTL
SLOW CAPSTAN SPEED
CTL
C-FG
SP/LP
TAPE SPEED DETECTOR
SP 27
LP 29
EP
SLOW TRACKING
SLOW TRACKING 31
SLOW TRACKING CONTROL
FRAME ADVANCE CONTROL (STILL.SLOW.F-ADV)
C-STR/STP 21
F/R OUT 24
26 C-FG(2)
41 F.ADV-P
D4011
D4010
30 SP/LP
36 MC-F/R
40 D0
39 D1
38 D2
37 D3
(MODE DATA)
MODE CONTROL
MODE
RF-SW-PULSE
DUMMY V-SYNC GENERATION (V-LOCK PULSE)
DL-1 11
DL-2 10
VD PULSE 4
R4027,R4028 C4021,C4022
D/A CONVERTOR (L.P.F)
D.S.E
R4025,R4027 C4018-R4020
D.P.E
IC4002
OP.AMP
DRUM DRIVE
DRUM DRIVE
MH-ON
D4014
CN4001
MH-VS
TO MH
RF SW-P
TO SYSCON
CN4006
RF.SW-P
AF.SW-P
TO VIDEO
CN4007 (HI-FI MODEL ONLY)
B4001
X2 SLOW
SVR4006
SVR4003
TRACK ⊕
TRACKING VR.
CN4003
TRACK ⊖
R4002,R4003 C4001,C4002
R4004~R4006 C4003,C4004
CAPSTAN DRIVE
CAPSTAN DRIVE
MC-VS
TO MC
D4004
D4005
MC-BR
D4001
MC-ON
LP
SP/LP
LP H
TO SYSCON
TO VIDEO
SVR4005
SLOW SUB TRACKING
SL TRACK
SLOW TRACKING VR.
SLOW DRIVE
MC-F/R
TO MC
R4030,C4025
VD-PULSE TIME CONSTANTS CR.
B4002
SW
VD-OUT
TO VIDEO
IC4004 D4012,D4013
X2 CIRCUIT
B4003
X VS
TO SYSCON
9
10
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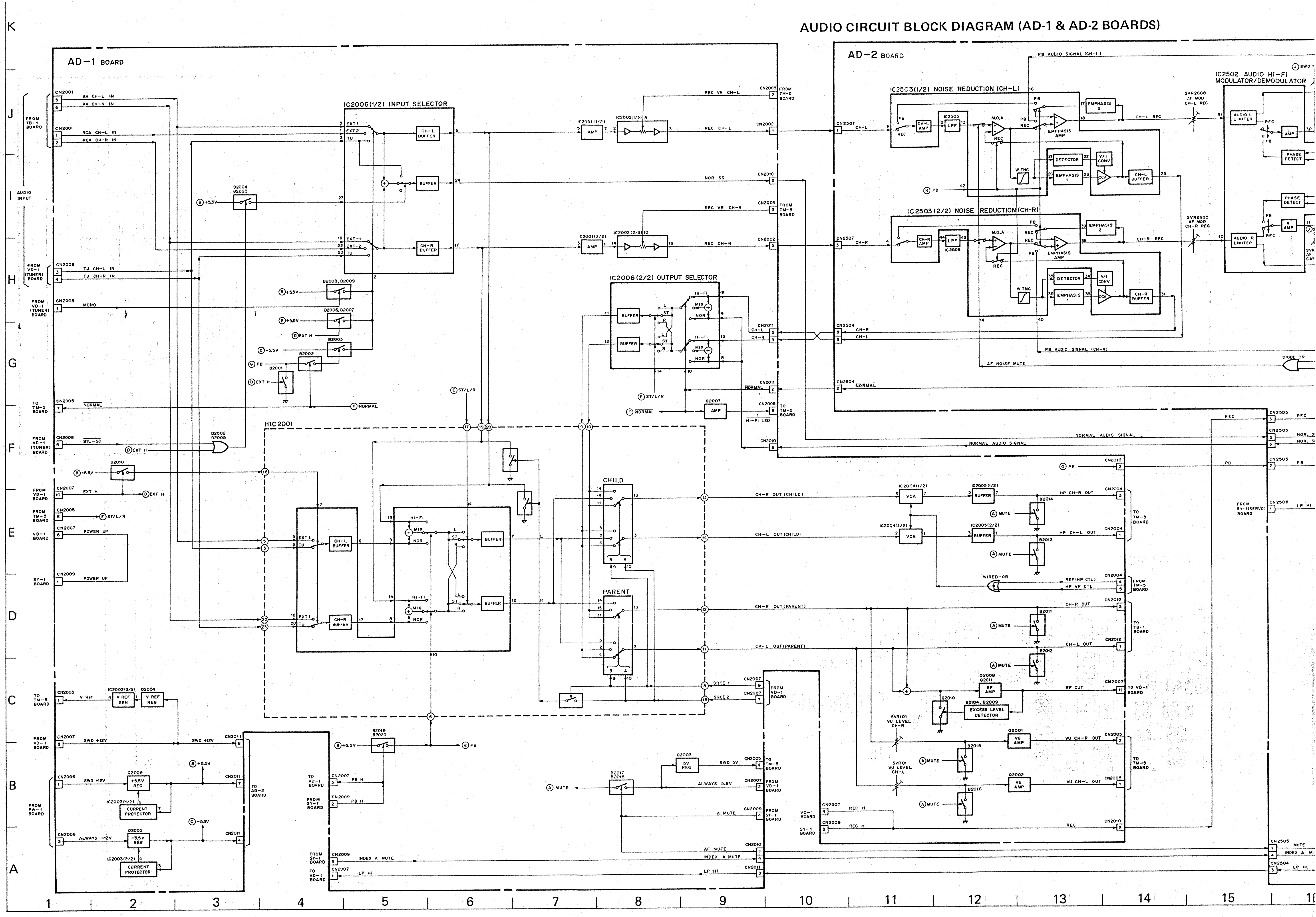
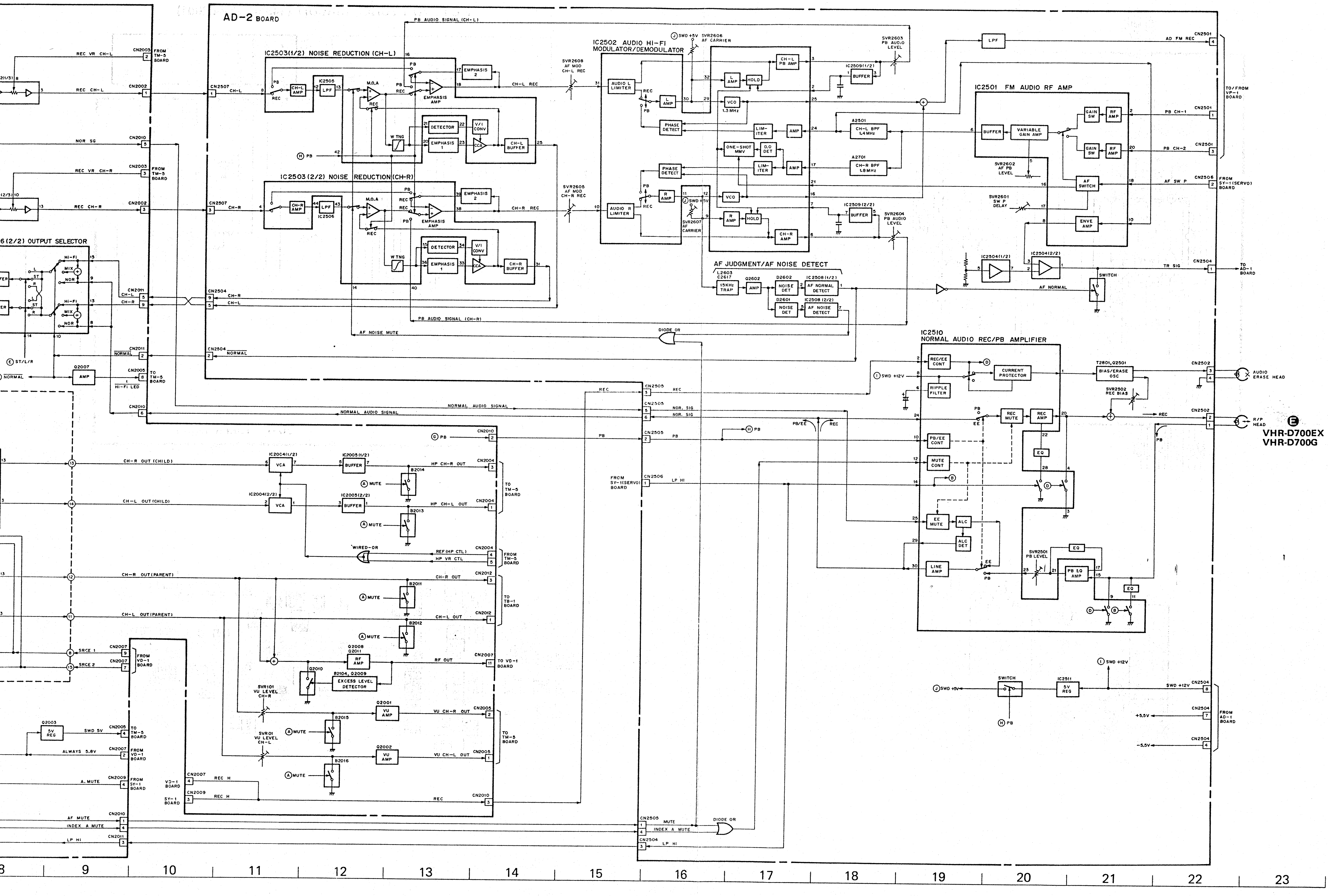
AUDIO CIRCUIT BLOCK DIAGRAM (AD-1 & AD-2 BOARDS)



AD-1 BOARD
AD-2 BOARD
IC2006(1/2) INPUT SELECTOR
IC2006(2/2) OUTPUT SELECTOR
IC2001(1/2)
IC2001(2/2)
IC2002(1/3)
IC2002(2/3)
IC2002(3/3)
HIC2001
CHILD
PARENT
IC2503(1/2) NOISE REDUCTION (CH-L)
IC2503(2/2) NOISE REDUCTION (CH-R)
IC2502 AUDIO HI-FI MODULATOR/DEMODULATOR
IC2505
IC2506
IC2004(1/2)
IC2004(2/2)
IC2005(1/2)
IC2005(2/2)
IC2003(1/2)
IC2003(2/2)
CH-L BUFFER
CH-R BUFFER
BUFFER
AMP
MIX
NOR
HI-FI
EMPHASIS 1
EMPHASIS 2
EMPHASIS AMP
DETECTOR
V/I CONV
CCA
LPF
M.O.A
W TNG
PHASE DETECT
AUDIO L LIMITER
AUDIO R LIMITER
VCA
RF AMP
EXCESS LEVEL DETECTOR
VU AMP
V REF GEN
V REF REG
+5.5V REG
-5.5V REG
5V REG
CURRENT PROTECTOR
WIRED-OR
DIODE OR
AUDIO INPUT
FROM TB-1 BOARD
FROM VD-1 (TUNER) BOARD
TO TM-5 BOARD
FROM TM-5 BOARD
FROM VD-1 BOARD
FROM SY-1 BOARD
FROM PW-1 BOARD
TO AD-2 BOARD
TO VD-1 BOARD
TO TB-1 BOARD
FROM SY-1 (SERVO) BOARD
AV CH-L IN
AV CH-R IN
RCA CH-L IN
RCA CH-R IN
TU CH-L IN
TU CH-R IN
MONO
NORMAL
BIL-SC
EXT H
POWER UP
V Ref
SWD +12V
ALWAYS -12V
PB H
REC H
INDEX A MUTE
LP HI
AF MUTE
A. MUTE
ALWAYS 5.8V
SWD 5V
REC VR CH-L
REC VR CH-R
REC CH-L
REC CH-R
NOR SG
HI-FI LED
CH-R OUT (CHILD)
CH-L OUT (CHILD)
CH-R OUT (PARENT)
CH-L OUT (PARENT)
HP CH-R OUT
HP CH-L OUT
REF (HP CTL)
HP VR CTL
CH-R OUT
CH-L OUT
RF OUT
VU CH-R OUT
VU CH-L OUT
SRCE 1
SRCE 2
MUTE
PB AUDIO SIGNAL (CH-L)
PB AUDIO SIGNAL (CH-R)
AF NOISE MUTE
NORMAL AUDIO SIGNAL
SVR2608 AF MOD CH-L REC
SVR2605 AF MOD CH-R REC
SVR101 VU LEVEL CH-R
SVR01 VU LEVEL CH-L
ST/L/R
PB
REC
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
A
B
C
D
E
F
G
H
I
J
K

AUDIO CIRCUIT BLOCK DIAGRAM (AD-1 & AD-2 BOARDS)


AD-2 BOARD
PB AUDIO SIGNAL (CH-L)
IC2503(1/2) NOISE REDUCTION (CH-L)
IC2503 (2/2) NOISE REDUCTION (CH-R)
IC2502 AUDIO HI-FI MODULATOR/DEMODULATOR
IC2501 FM AUDIO RF AMP
AF JUDGMENT/AF NOISE DETECT
IC2510 NORMAL AUDIO REC/PB AMPLIFIER
6(2/2) OUTPUT SELECTOR
REC VR CH-L
REC CH-L
NOR SG
REC VR CH-R
REC CH-R
CN2003
CN2002
CN2010
CN2011
CN2005
CN2007
CN2009
CN2004
CN2012
CN2504
CN2505
CN2506
CN2501
CN2502
FROM TM-5 BOARD
TO TM-5 BOARD
TO TB-1 BOARD
FROM VD-1 BOARD
TO VD-1 BOARD
FROM SY-1 BOARD
FROM SY-1(SERVO) BOARD
TO/FROM VP-1 BOARD
TO AD-1 BOARD
FROM AD-1 BOARD
HI-FI
MIX
NOR
ST
CH-L
CH-R
NORMAL
ST/L/R
Q2007
AMP
HI-FI LED
CH-L AMP
CH-R AMP
IC2505
LPF
IC2506
M.O.A
EMPHASIS 2
EMPHASIS AMP
DETECTOR
EMPHASIS 1
V/I CONV
CCA
W TNG
CH-L BUFFER
CH-R BUFFER
PB
REC
CH-L REC
CH-R REC
SVR2608 AF MOD CH-L REC
SVR2605 AF MOD CH-R REC
SWD +5V
SVR2606 AF CARRIER
SVR2607 AF CARRIER
AUDIO L LIMITER
AUDIO R LIMITER
L AMP
R AMP
HOLD
VCO
1.3 MHz
PHASE DETECT
LIM-ITER
ONE-SHOT MMV
D.O DET
CH-L PB AMP
CH-R AMP
IC2509(1/2) BUFFER
IC2509(2/2) BUFFER
SVR2603 PB AUDIO LEVEL
SVR2604 PB AUDIO LEVEL
A2501 CH-L BPF 1.4MHz
A2701 CH-R BPF 1.8MHz
LPF
AD FM REC
BUFFER
VARIABLE GAIN AMP
GAIN SW
RF AMP
AF SWITCH
ENVE AMP
SVR2602 AF PB LEVEL
SVR2601 SW P DELAY
PB CH-1
PB CH-2
AF SW P
IC2504(1/2)
IC2504(2/2)
TR SIG
SWITCH
AF NORMAL
L2603 C2617 15KHz TRAP
Q2602 AMP
D2602 NOISE DET
D2601 NOISE DET
IC2508(1/2) AF NORMAL DETECT
IC2508(2/2) AF NOISE DETECT
PB AUDIO SIGNAL (CH-R)
AF NOISE MUTE
DIODE OR
NORMAL
REC
NORMAL AUDIO SIGNAL
NOR. SIG
PB/EE
PB
LP HI
REC/EE CONT
SWD +12V
RIPPLE FILTER
CURRENT PROTECTOR
T2801, Q2501 BIAS/ERASE OSC
SVR2502 REC BIAS
AUDIO ERASE HEAD
REC MUTE
REC AMP
EQ
R/P HEAD
PB/EE CONT
MUTE CONT
EE MUTE
ALC
ALC DET
LINE AMP
SVR2501 PB LEVEL
PB EQ AMP
EE
CH-R OUT (CHILD)
CH-L OUT (CHILD)
IC2004(1/2) VCA
IC2004(2/2) VCA
IC2005(1/2) BUFFER
IC2005(2/2) BUFFER
HP CH-R OUT
HP CH-L OUT
B2014
B2013
MUTE
WIRED-OR
REF (HP CTL)
HP VR CTL
CH-R OUT (PARENT)
CH-L OUT (PARENT)
CH-R OUT
CH-L OUT
B2011
B2012
Q2008 Q2011 RF AMP
RF OUT
Q2010
B2104, Q2009 EXCESS LEVEL DETECTOR
SVR101 VU LEVEL CH-R
SVR01 VU LEVEL CH-L
Q2001 VU AMP
Q2002 VU AMP
VU CH-R OUT
VU CH-L OUT
B2015
B2016
SRCE 1
SRCE 2
Q2003 5V REG
SWD 5V
ALWAYS 5.8V
A. MUTE
REC H
VD-1 BOARD
SY-1 BOARD
AF MUTE
INDEX A MUTE
MUTE
IC2511 5V REG
SWD +5V
SWD +12V
+5.5V
-5.5V
8
9
10
11
12
13
14
15
16
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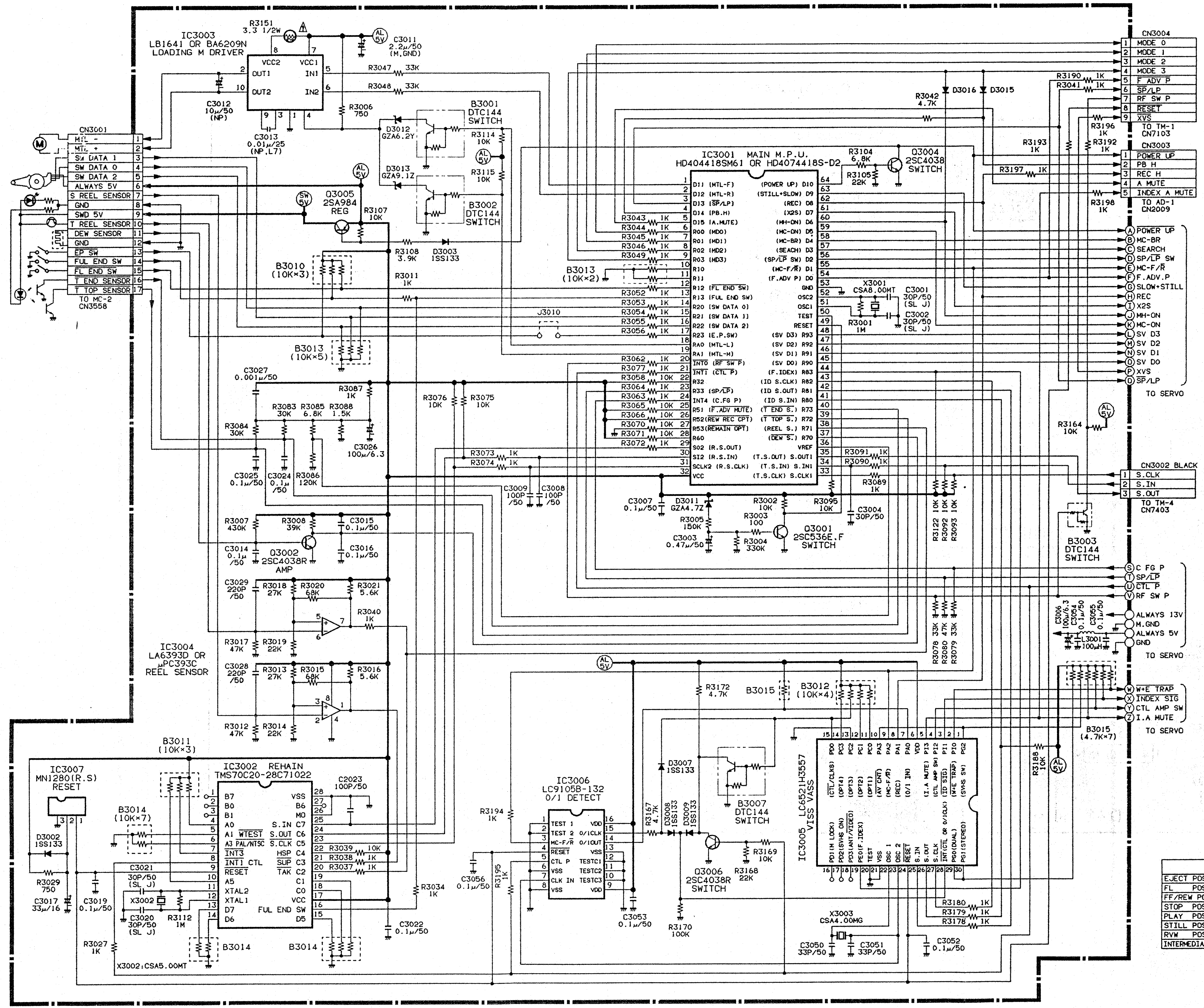
VHR-D700EX
VHR-D700G

P.C.B. SY-1 SYSTEM CONTROL CIRCUIT (143-0-233V-64422)


IC3003
LB1641 OR BA6209N
LOADING M DRIVER
R3151 3.3 1/2W
C3011 2.2μ/50 (M,GND)
C3012 10μ/50 (NP)
C3013 0.01μ/25 (NP,L7)
R3047 33K
R3048 33K
R3006 750
B3001 DTC144 SWITCH
D3012 GZA6.2Y
D3013 GZA9.1Z
R3114 10K
R3115 10K
B3002 DTC144 SWITCH
Q3005 2SA984 REG
R3107 10K
R3108 3.9K
D3003 1SS133
R3011 1K
B3010 (10K×3)
B3013 (10K×2)
B3013 (10K×5)
J3010
CN3001
MTL -
MTL +
SW DATA 1
SW DATA 0
SW DATA 2
ALWAYS 5V
S REEL SENSOR
GND
SWD 5V
T REEL SENSOR
DEW SENSOR
GND
EP SW
FUL END SW
FL END SW
T END SENSOR
T TOP SENSOR
TO MC-2 CN3558
IC3001 MAIN M.P.U.
HD404418SM61 OR HD4074418S-D2
R3104 6.8K
R3105 22K
Q3004 2SC4038 SWITCH
X3001 CSA8.00MT
C3001 30P/50 (SL J)
C3002 30P/50 (SL J)
R3001 1M
R3042 4.7K
D3016
D3015
CN3004
MODE 0
MODE 1
MODE 2
MODE 3
F ADV P
SP/LP
RF SW P
RESET
XVS
TO TM-1 CN7103
CN3003
POWER UP
PB H
REC H
A MUTE
INDEX A MUTE
TO AD-1 CN2009
POWER UP
MC-BR
SEARCH
SP/LP SW
MC-F/R
F.ADV.P
SLOW+STILL
REC
X2S
MH-ON
MC-ON
SV D3
SV D2
SV D1
SV D0
XVS
SP/LP
TO SERVO
C3027 0.001μ/50
R3087 1K
R3083 30K
R3085 6.8K
R3088 1.5K
R3084 30K
C3026 100μ/6.3
C3025 0.1μ/50
C3024 0.1μ/50
R3086 120K
R3076 10K
R3075 10K
R3073 1K
R3074 1K
C3009 100P/50
C3008 100P/50
C3007 0.1μ/50
D3011 GZA4.7Z
R3002 10K
R3003 100
R3005 150K
C3003 0.47μ/50
R3004 330K
Q3001 2SC536E.F SWITCH
R3095 10K
C3004 30P/50
R3091 1K
R3090 1K
R3089 1K
R3122 10K
R3092 10K
R3093 10K
CN3002 BLACK
S.CLK
S.IN
S.OUT
TO TM-4 CN7403
B3003 DTC144 SWITCH
R3164 10K
R3007 430K
R3008 39K
C3015 0.1μ/50
C3016 0.1μ/50
C3014 0.1μ/50
Q3002 2SC4038R AMP
C3029 220P/50
R3018 27K
R3020 68K
R3021 5.6K
R3040 1K
R3017 47K
R3019 22K
IC3004
LA6393D OR μPC393C
REEL SENSOR
C3028 220P/50
R3013 27K
R3015 68K
R3016 5.6K
R3012 47K
R3014 22K
C FG P
SP/LP
CTL P
RF SW P
ALWAYS 13V
M.GND
ALWAYS 5V
GND
TO SERVO
R3078 33K
R3080 47K
R3079 33K
L3001 100μH
W+E TRAP
INDEX SIG
CTL AMP SW
I.A MUTE
TO SERVO
B3015 (4.7K×7)
B3011 (10K×3)
IC3007 MN1280(R.S) RESET
D3002 1SS133
R3029 750
C3017 33μ/16
C3019 0.1μ/50
IC3002 REHAIN
TMS70C20-28C71022
C2023 100P/50
B3014 (10K×7)
C3021 30P/50 (SL J)
X3002
C3020 30P/50 (SL J)
R3112 1M
R3039 10K
R3038 1K
R3037 1K
R3034 1K
C3022 0.1μ/50
R3027 1K
B3014
B3014
X3002:CSA5.00MT
R3172 4.7K
B3015
B3012 (10K×4)
D3007 1SS133
B3007 DTC144 SWITCH
IC3006 LC9105B-132 0/1 DETECT
R3194 1K
R3195 1K
C3056 0.1μ/50
R3167 4.7K
D3008 1SS133
D3009 1SS133
Q3006 2SC4038R SWITCH
R3169 10K
R3168 22K
R3170 100K
C3053 0.1μ/50
IC3005 LC6521H3557 VISS VASS
R3188 10K
R3180 1K
R3179 1K
R3178 1K
X3003 CSA4.00MG
C3050 33P/50
C3051 33P/50
C3052 0.1μ/50
R3190 1K
R3041 1K
R3196 1K
R3192 1K
R3193 1K
R3197 1K
R3198 1K

J

VHR-D700EX
VHR-D700G

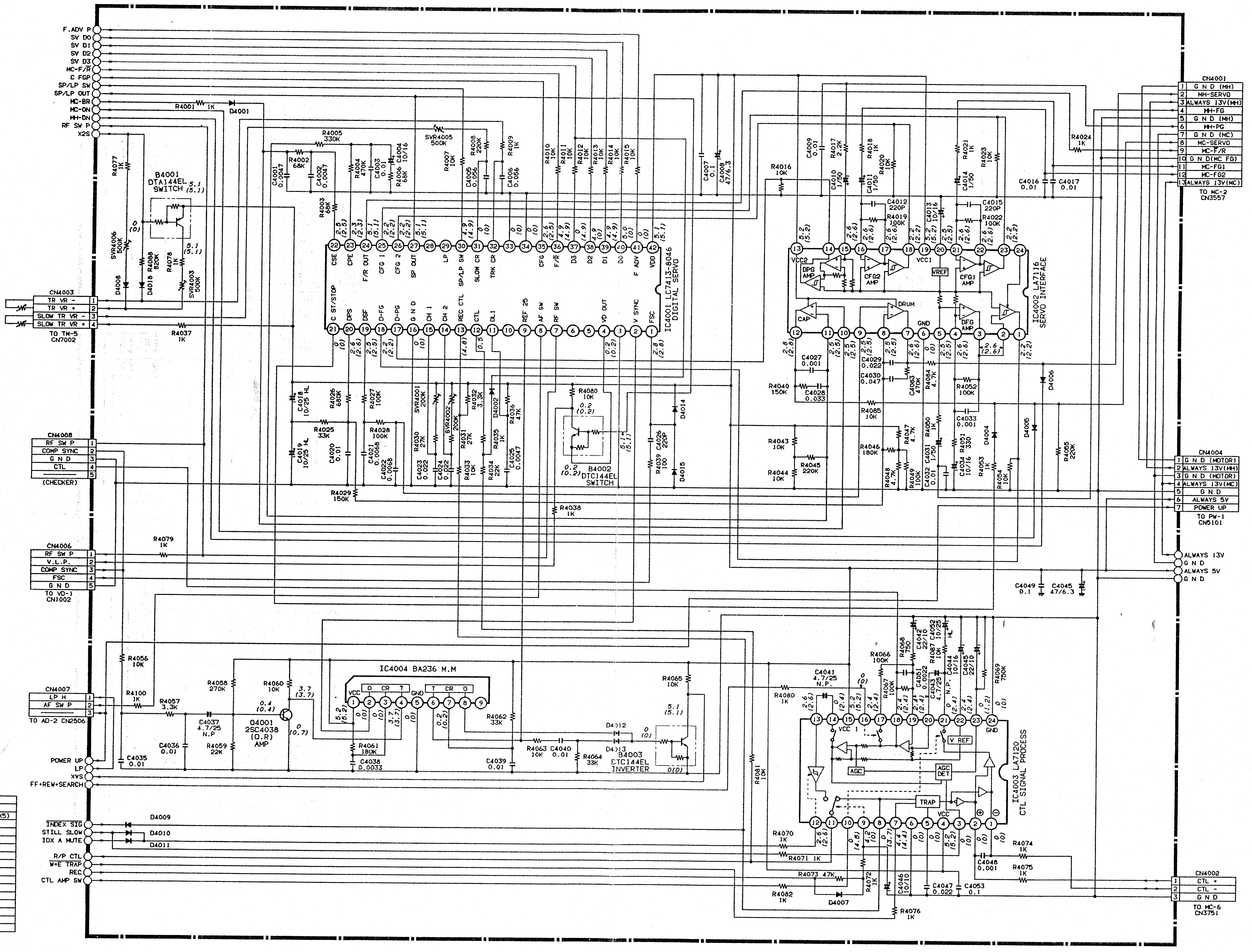
SERVO INTERFACE

MODE	D3	D2	D1	D0	HEX
STOP	0	0	0	0	0
———	0	0	0	1	1
TL	0	0	1	0	2
FF REW.FL FUL	0	0	1	1	3
TL	0	1	0	0	4
TUL	0	1	0	1	5
MODE CHANGE	0	1	1	0	6
REC	0	1	1	0	7
PAUSE	1	0	0	0	8
MODE CHANGE PLAY	1	0	0	1	9
PLAY-A	1	0	1	0	A
X2S	1	0	1	1	B
CUE RVW	1	1	0	0	C
———	1	1	0	1	D
SLOW,STILL	1	1	1	0	E
———	1	1	1	1	F

MECHANISM SWITCH

	SW DATA2	SW DATA1	SW DATA0	HEX
EJECT POS	0	0	1	1
FL POS	1	1	1	7
FF/REW POS	0	1	0	2
STOP POS	0	1	1	3
PLAY POS	1	0	0	4
STILL POS	1	0	1	5
RVW POS	1	1	0	6
INTERMEDIATE POS	0	0	0	0

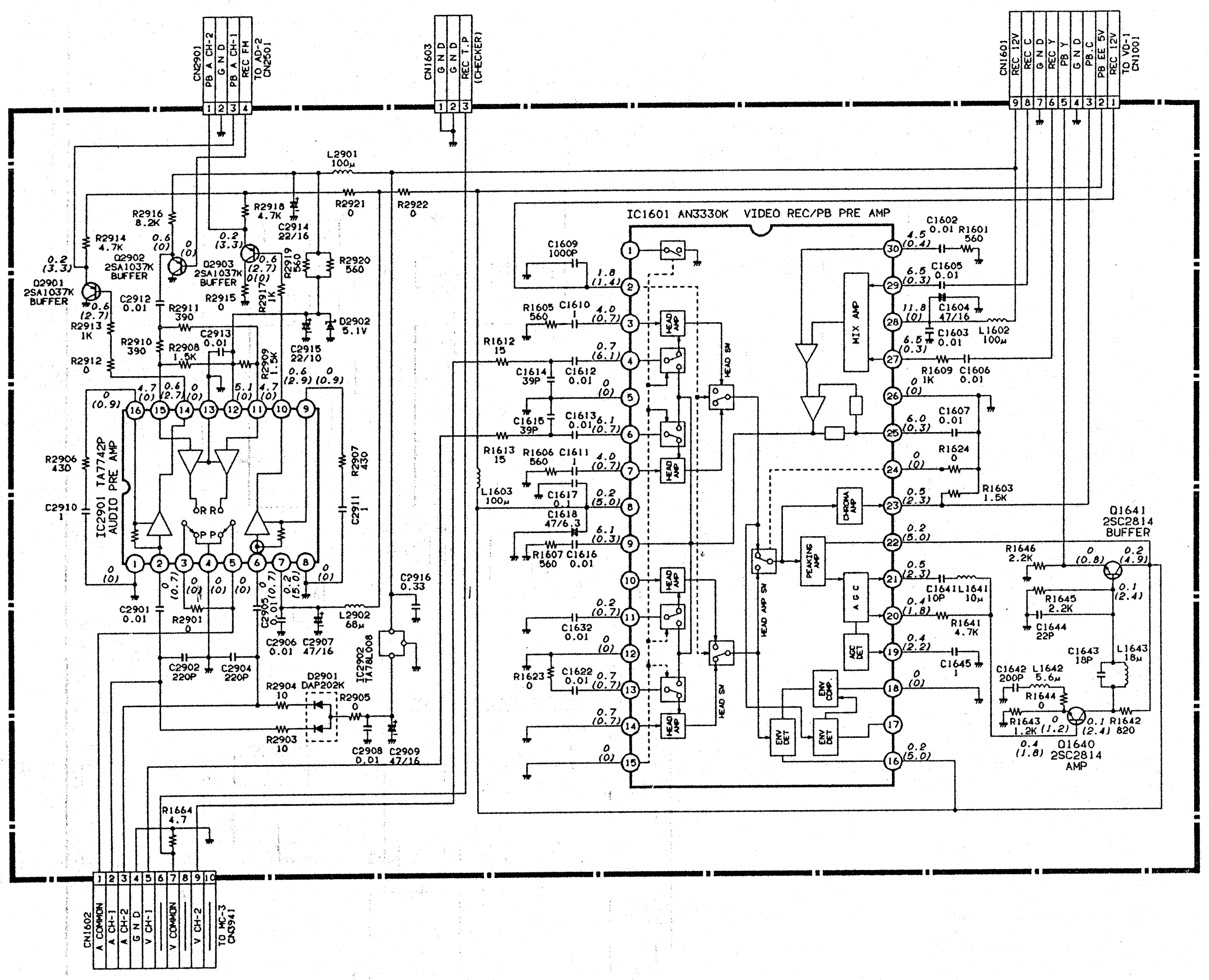
P.C.B. SY-1 SERVO CIRCUIT (143-0-233V-64422)


F.ADV P
SV D0
SV D1
SV D2
SV D3
MC-F/$\overline{R}$
C FGP
SP/LP SW
SP/LP OUT
MC-BR
MC-ON
MH-DN
RF SW P
X2S
R4001 1K
D4001
R4077 1K
B4001 DTA144EL SWITCH
SVR4006 500K
D4008
D4018
R4098 820K
R4078 1K
SVR4003 500K
CN4003
1 TR VR -
2 TR VR +
3 SLOW TR VR -
4 SLOW TR VR +
TO TH-5 CN7002
R4037 1K
R4005 330K
R4002 68K
C4001 0.0047
C4002 0.0047
R4003 68K
R4004 470K
C4003 0.01
C4004 10/16
R4006 68K
SVR4005 500K
R4007 10K
R4008 220K
C4005 0.056
C4006 0.056
R4009 1K
R4010 10K
R4011 10K
R4012 10K
R4013 10K
R4014 10K
R4015 10K
C4007 0.1
C4008 47/6.3
IC4001 LC7413-8046 DIGITAL SERVO
CSE
CPE
F/R OUT
CFG 1
CFG 2
SP OUT
LP
SP/LP SW
SLOW CR
TRK CR
CFG
F/R
D3
D2
D1
D0
F ADV
VDD
C ST/STOP
DPS
DSF
D-FG
D-PG
G N D
CH 1
CH 2
REC CTL
CTL
DL1
REF 25
AF SW
RF SW
VD OUT
V SYNC
FSC
C4018 10/25 HL
R4026 680K
R4027 100K
R4025 33K
R4028 100K
C4019 10/25 HL
C4020 0.01
C4021 0.0068
C4022 0.0068
R4029 150K
SVR4001 200K
SVR4002 200K
R4030 27K
R4031 27K
R4032 3.3K
D4002
R4035 1K
R4036 47K
C4023 0.022
C4024 0.022
R4033 10K
R4034 22K
C4025 0.0047
R4080 10K
B4002 DTC144EL SWITCH
C4026 220P
R4039 100
D4014
D4015
R4038 1K
R4016 10K
C4009 0.01
R4017 2.2K
R4018 1K
R4020 10K
C4010 1/50
C4011 1/50
C4012 220P
R4019 100K
C4013 10/16
R4021 1K
C4014 1/50
R4023 10K
C4015 220P
R4022 100K
C4016 0.01
C4017 0.01
R4024 1K
IC4002 LA7116 SERVO INTERFACE
VCC2
DPG AMP
CFG2 AMP
VCC1
VREF
CFG1 AMP
CAP
DRUM
GND
DFG AMP
C4027 0.001
R4040 150K
C4028 0.033
C4029 0.022
C4030 0.047
C4083 470K
R4084 4.7K
R4052 100K
C4033 0.001
D4006
D4005
D4004
R4085 10K
R4043 10K
R4044 10K
R4045 220K
R4046 180K
R4047 4.7K
R4048 4.7K
R4049 100K
C4032 0.01
C4031 1/50
R4050 1K
C4034 10/16
R4051 330
R4053 1K
R4054 10K
R4055 220K
CN4001
1 G N D (MH)
2 MH-SERVO
3 ALWAYS 13V(MH)
4 MH-FG
5 G N D (MH)
6 MH-PG
7 G N D (MC)
8 MC-SERVO
9 MC-F/$\overline{R}$
10 G N D(MC FG)
11 MC-FG1
12 MC-FG2
13 ALWAYS 13V(MC)
TO MC-2 CN3557
CN4004
1 G N D (MOTOR)
2 ALWAYS 13V(MH)
3 G N D (MOTOR)
4 ALWAYS 13V(MC)
5 G N D
6 ALWAYS 5V
7 POWER UP
TO PW-1 CN5101
ALWAYS 13V
G N D
ALWAYS 5V
G N D
C4049 0.1
C4045 47/6.3
CN4008
1 RF SW P
2 COMP SYNC
3 G N D
4 CTL
5
(CHECKER)
CN4006
1 RF SW P
2 V.L.P.
3 COMP SYNC
4 FSC
5 G N D
TO VD-1 CN1002
R4079 1K
CN4007
1 LP H
2 AF SW P
3
TO AD-2 CN2506
R4056 10K
R4100 1K
R4057 3.3K
C4035 0.01
C4036 0.01
C4037 4.7/25 N.P
R4058 270K
R4059 22K
R4060 10K
Q4001 2SC4038 (O.R) AMP
IC4004 BA236 M.M
VCC
CR
GND
R4061 180K
C4038 0.0033
R4062 33K
C4039 0.01
R4063 10K
C4040 0.01
R4064 33K
D4012
D4013
B4003 DTC144EL INVERTER
R4065 10K
POWER UP
LP
XVS
FF+REW+SEARCH
$\overline{\text{INDEX SIG}}$
STILL SLOW
IDX A MUTE
D4009
D4010
D4011
R/P CTL
$\overline{\text{W+E TRAP}}$
REC
CTL AMP SW
R4081 10K
R4080 1K
C4041 4.7/25 N.P.
R4066 100K
R4067 100K
R4068 750
C4042 22/10
C4051 0.022
C4043 4.7/25
R4087 10K
C4052 10/25 HL
C4044 10/16
C4046 22/10
R4069 750K
IC4003 LA7120 CTL SIGNAL PROCESS
VCC
AGC
AGC DET
V REF
TRAP
GND
R4070 1K
R4071 1K
R4073 47K
R4072 1K
R4082 1K
D4007
C4046 10/10
C4047 0.022
C4053 0.1
C4048 0.001
R4074 1K
R4075 1K
R4076 1K
CN4002
1 CTL +
2 CTL -
3 G N D
TO MC-6 CN3751

	D3	D2	D1	D0	MODE
0	0	0	0	0	STOP
1	0	0	0	1	IDX SEARCH (X5)
2	0	0	1	0	TAPE LOADING
3	0	0	1	1	FF.RWD (X7)
4	0	1	0	0	SP SPEED1
5	0	1	0	1	SP SPEED2
6	0	1	1	0	LP X 1
7	0	1	1	1	REC
8	1	0	0	0	EDIT
9	1	0	0	1	PB NOR1
A	1	0	1	0	PB NOR2
B	1	0	1	1	PB X 2
C	1	1	0	0	SEARCH (X9)
D	1	1	0	1	1/3 SLOW
E	1	1	1	0	SLOW
F	1	1	1	1	INSERT

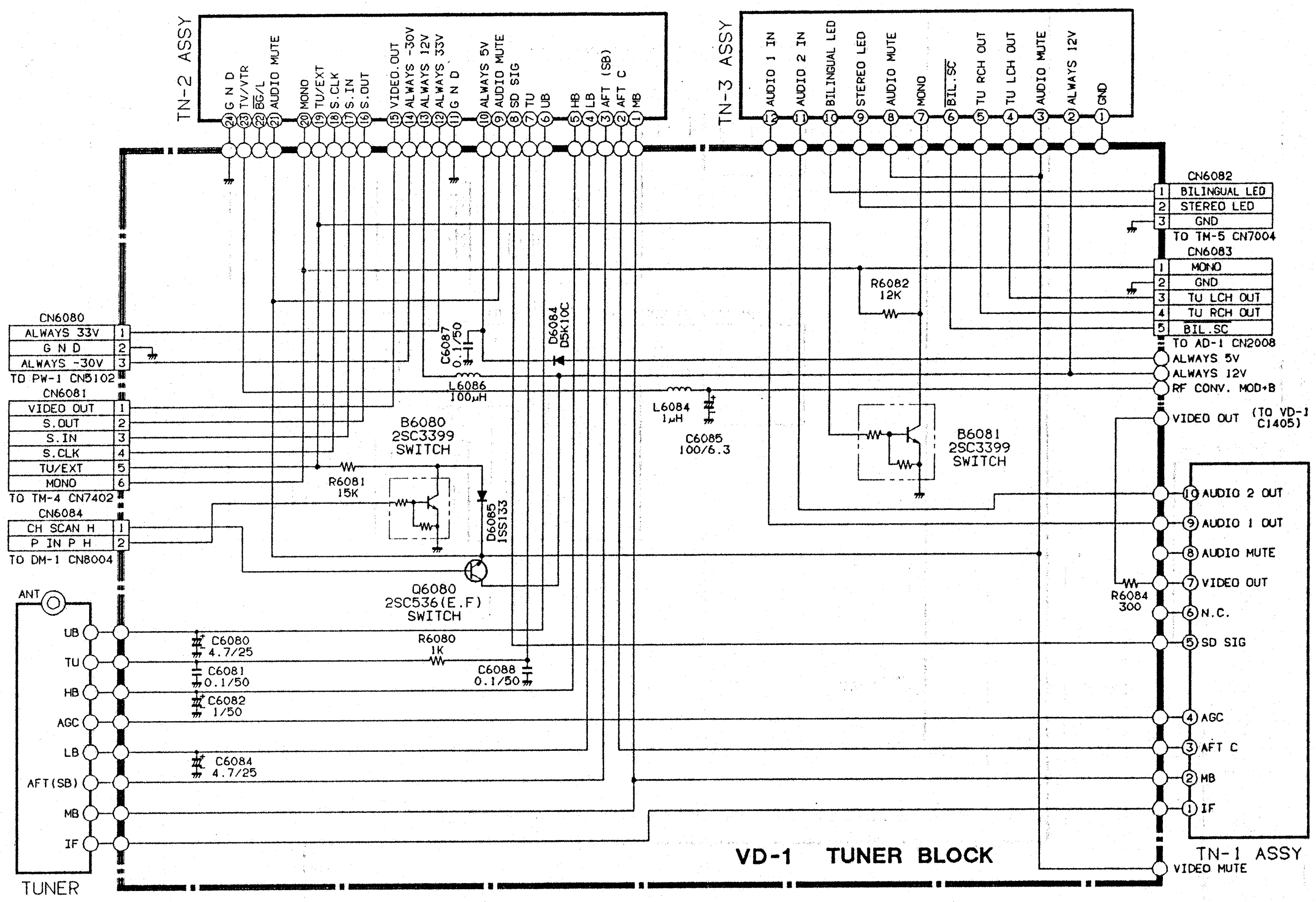
16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31

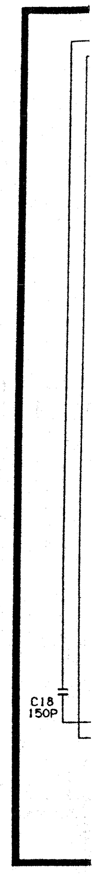
P.C.B. VP-1 VIDEO PRE-AMP CIRCUIT (143-0-233V-43802)


CN2901
PB A CH-2
G N D
PB A CH-1
REC FM
TO AD-2 CN2501
CN1603
G N D
G N D
REC T.P (CHECKER)
CN1601
REC 12V
REC C
G N D
REC Y
PB Y
G N D
PB C
PB EE 5V
REC 12V
TO VD-1 CN1001
L2901 100μ
R2921 0
R2922 0
R2916 8.2K
R2918 4.7K
C2914 22/16
R2914 4.7K
Q2902 2SA1037K BUFFER
Q2903 2SA1037K BUFFER
R2920 560
D2901 2SA1037K BUFFER
R2915 0
R2919 1K
R2911 390
R2913 1K
C2912 0.01
D2902 5.1V
R2910 390
C2913 0.01
R2908 1.5K
R2909 2.2K
C2915 22/10
R2912 0
R2906 430
R2907 430
IC2901 TA7742P AUDIO PRE AMP
C2910 1
C2911
C2916 0.33
L2902 68μ
C2901 0.01
R2901
C2905 0.01
C2906 0.01
C2907 47/16
IC2902 TA78L006
C2902 220P
C2904 220P
R2904 10
D2901 DAP202K
R2905
R2903 10
C2908 0.01
C2909 47/16
R1664 4.7
IC1601 AN3330K VIDEO REC/PB PRE AMP
C1609 1000P
C1602 0.01
R1601 560
C1605 0.01
C1604 47/16
L1602 100μ
C1603 0.01
R1605 560
C1610 1
R1612 15
C1614 39P
C1612 0.01
R1609 1K
C1606 0.01
C1615 39P
C1613 0.01
C1607 0.01
R1613 15
R1606 560
C1611 1
R1624
L1603 100μ
C1617 0.1
R1603 1.5K
C1618 47/6.3
R1607 560
C1616 0.01
C1632 0.01
R1623 0
C1622 0.01
HEAD AMP
HEAD SW
MIX AMP
HEAD AMP SW
PEAKING AMP
A G C
RECORDING AMP
AGC DET
ENV COMP
ENV DET
Q1641 2SC2814 BUFFER
R1646 2.2K
R1645 2.2K
C1641 10P
L1641 10μ
C1644 22P
R1641 4.7K
C1643 18P
L1643 18μ
C1645 1
C1642 200P
L1642 5.6μ
R1644 0
R1643 1.2K
R1642 820
Q1640 2SC2814 AMP
CN1602
A COMMON
A CH-1
A CH-2
G N D
V CH-1
V COMMON
V CH-2
TO MC-3 CN3941

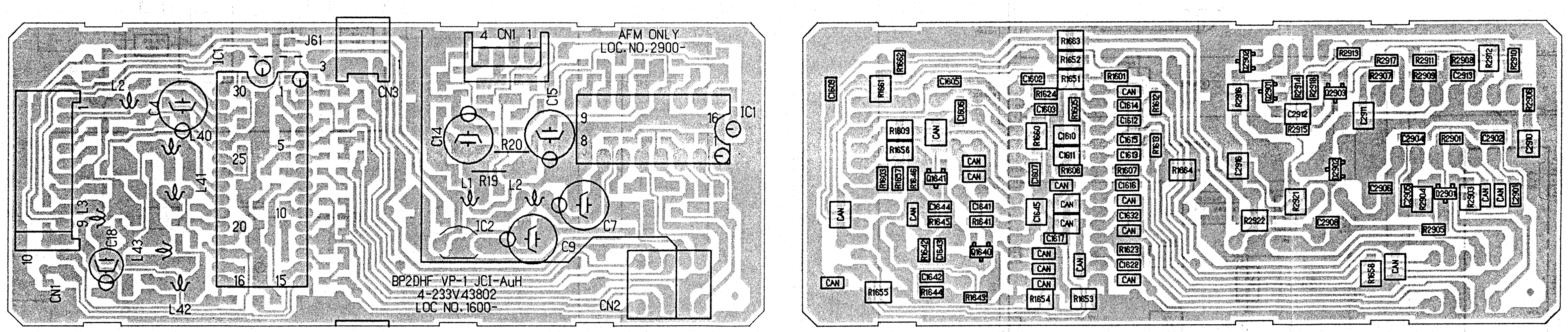
F
VHR-D700EX
VHR-D700G

P.C.B. VD-1 TUNER CIRCUIT (143-0-233V-62001)


TN-2 ASSY
G N D
TV/VTR
BG/L
AUDIO MUTE
MONO
TU/EXT
S.CLK
S.IN
S.OUT
VIDEO OUT
ALWAYS -30V
ALWAYS 12V
ALWAYS 33V
G N D
ALWAYS 5V
AUDIO MUTE
SD SIG
TU
UB
HB
LB
AFT (SB)
AFT C
MB
TN-3 ASSY
AUDIO 1 IN
AUDIO 2 IN
BILINGUAL LED
STEREO LED
AUDIO MUTE
MONO
BIL.SC
TU RCH OUT
TU LCH OUT
AUDIO MUTE
ALWAYS 12V
GND
CN6082
BILINGUAL LED
STEREO LED
GND
TO TN-5 CN7004
CN6083
MONO
GND
TU LCH OUT
TU RCH OUT
BIL.SC
TO AD-1 CN2008
ALWAYS 5V
ALWAYS 12V
RF CONV. MOD+B
VIDEO OUT (TO VD-1 C1405)
R6082 12K
CN6080
ALWAYS 33V
G N D
ALWAYS -30V
TO PW-1 CN5102
CN6081
VIDEO OUT
S.OUT
S.IN
S.CLK
TU/EXT
MONO
TO TM-4 CN7402
CN6084
CH SCAN H
P IN P H
TO DM-1 CN8004
C6087 0.1/50
D6084 DSK10C
L6086 100μH
L6084 1μH
C6085 100/6.3
B6080 2SC3399 SWITCH
B6081 2SC3399 SWITCH
R6081 15K
D6085 1SS133
Q6080 2SC536(E,F) SWITCH
ANT
UB
TU
HB
AGC
LB
AFT(SB)
MB
IF
TUNER
C6080 4.7/25
C6081 0.1/50
C6082 1/50
C6084 4.7/25
R6080 1K
C6088 0.1/50
R6084 300
AUDIO 2 OUT
AUDIO 1 OUT
AUDIO MUTE
VIDEO OUT
N.C.
SD SIG
AGC
AFT C
MB
IF
VD-1 TUNER BLOCK
TN-1 ASSY
VIDEO MUTE



P.C.B. VP-1 VIDEO PRE-AMP (143-0-233V-43802)

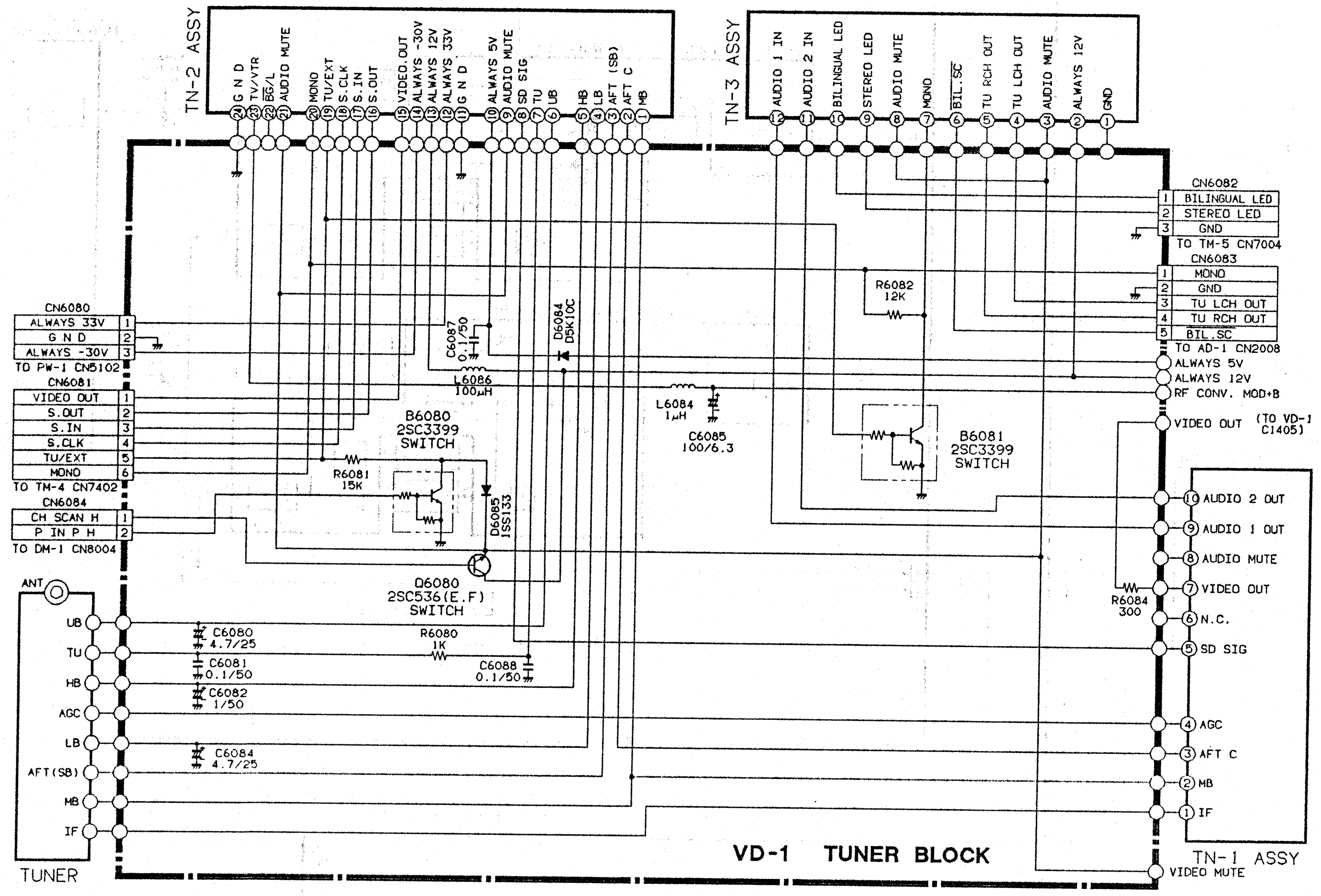

AFM ONLY
LOC.NO.2900-
CN1
CN2
CN3
IC1
IC2
J61
C14
C15
C7
C9
C18
R19
R20
L2
L40
L41
L42
L43
BP2DHF VP-1 JCI-AuH
4-233V43802
LOC NO.1600-

CHIP PARTS

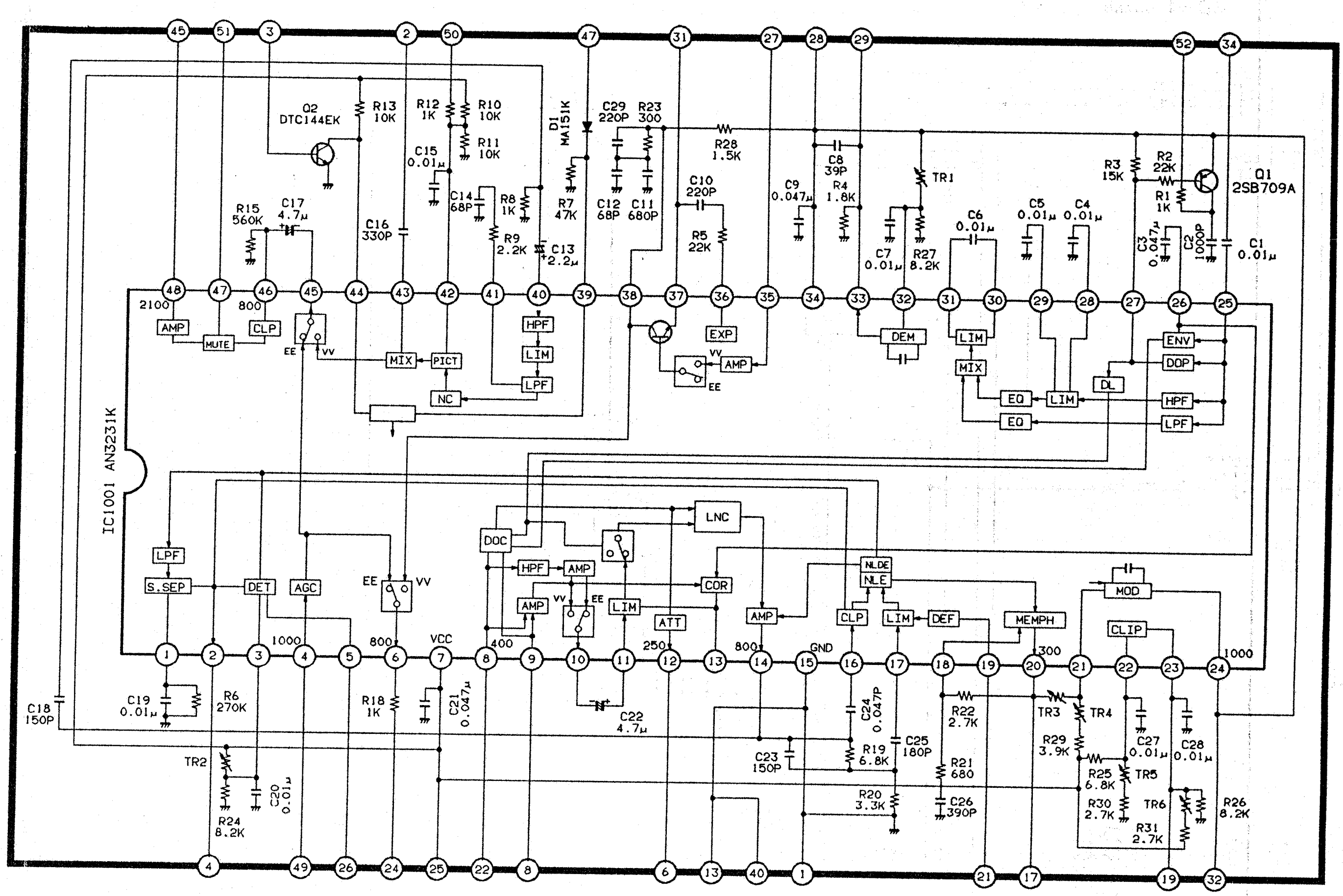
K
J
I
H
G
F
E
D
C
B
A

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

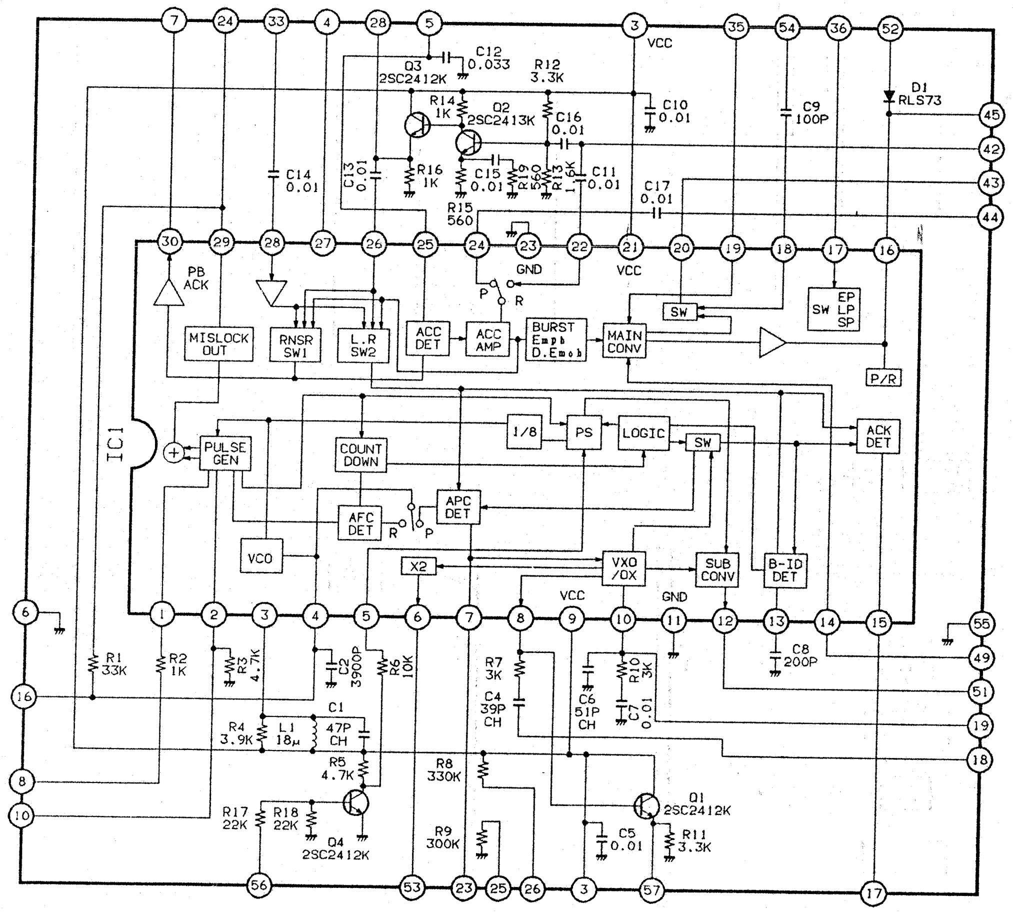
P.C.B. VD-1 TUNER CIRCUIT (143-0-233V-62001)


TN-2 ASSY
TN-3 ASSY
CN6080
ALWAYS 33V
GND
ALWAYS -30V
TO PW-1 CN6102
CN6081
VIDEO OUT
S.OUT
S.IN
S.CLK
TU/EXT
MONO
TO TN-4 CN7402
CN6084
CH SCAN H
P IN P H
TO DM-1 CN8004
CN6082
BILINGUAL LED
STEREO LED
GND
TO TM-5 CN7004
CN6083
MONO
GND
TU LCH OUT
TU RCH OUT
BIL.SC
TO AD-1 CN2008
ALWAYS 5V
ALWAYS 12V
RF CONV. MOD+B
VIDEO OUT
(TO VD-1 C1405)
AUDIO 2 OUT
AUDIO 1 OUT
AUDIO MUTE
VIDEO OUT
N.C.
SD SIG
AGC
AFT C
MB
IF
TN-1 ASSY
VIDEO MUTE
B6080
2SC3399
SWITCH
B6081
2SC3399
SWITCH
D6080
2SC536(E.F)
SWITCH
D6085
1SS133
D6084
DSK10C
R6081
15K
R6082
12K
R6080
1K
R6084
300
L6086
100μH
L6084
1μH
C6085
100/6.3
C6087
0.1/50
C6080
4.7/25
C6081
0.1/50
C6082
1/50
C6084
4.7/25
C6088
0.1/50
ANT
UB
TU
HB
AGC
LB
AFT(SB)
MB
IF
TUNER
VD-1 TUNER BLOCK

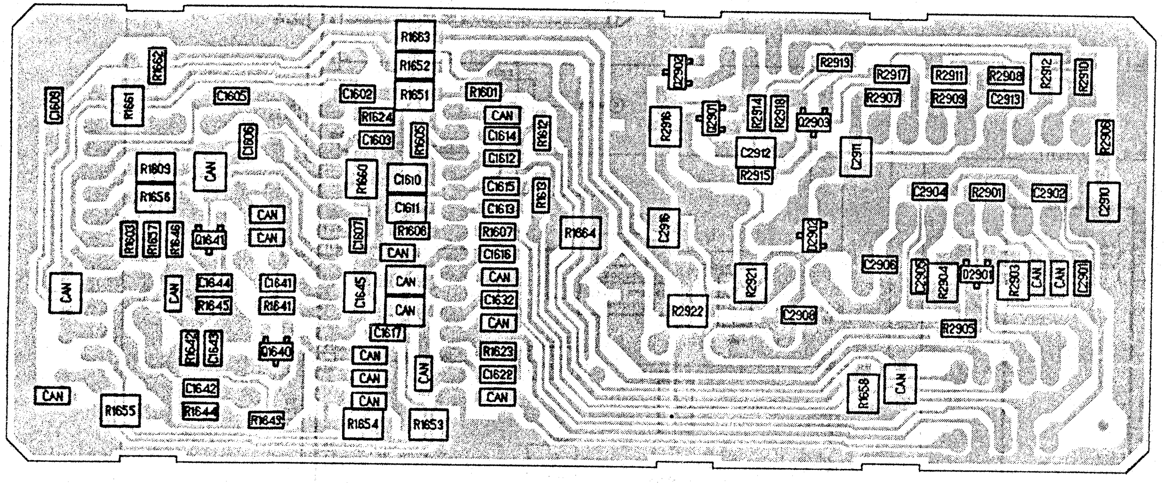
HIC1001 CIRCUIT


IC1001 AN3231K
Q1
2SB709A
Q2
DTC144EK
D1
MA151K
TR1
TR2
TR3
TR4
TR5
TR6
AMP
MUTE
CLP
MIX
PICT
NC
HPF
LIM
LPF
EXP
AMP
DEM
LIM
MIX
EQ
EQ
LIM
DL
ENV
DOP
HPF
LPF
LPF
S.SEP
DET
AGC
DOC
HPF
AMP
AMP
LIM
LNC
COR
ATT
AMP
NLDE
NLE
CLP
LIM
DEF
MEMPH
MOD
CLIP
VCC
GND
EE
VV

HIC1201 CIRCUIT


IC1
VCC
GND
D1
RLS73
Q1
2SC2412K
Q2
2SC2413K
Q3
2SC2412K
D4
2SC2412K
PB ACK
MISLOCK OUT
RNSR SWI
L.R SW2
ACC DET
ACC AMP
BURST Emph D.Emph
MAIN CONV
SW
EP SW LP SP
P/R
PULSE GEN
COUNT DOWN
1/8
PS
LOGIC
SW
ACK DET
AFC DET
APC DET
VCO
X2
VXO /OX
SUB CONV
B-ID DET

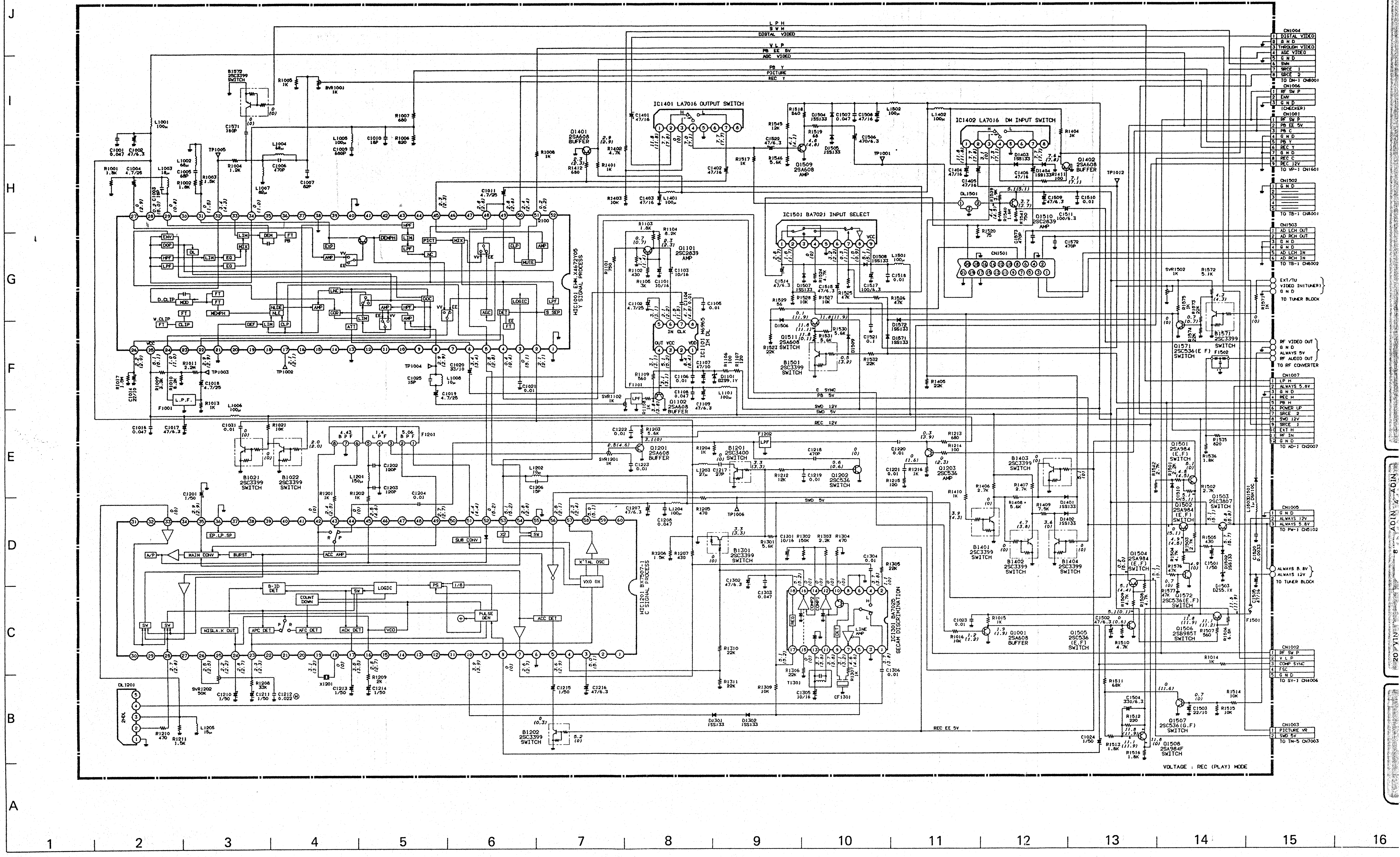
D PRE-AMP (143-0-233V-43802)


R1663
R1652
R1651
R1601
R1624
R1605
C1614
C1612
C1615
C1613
C1610
C1611
R1608
R1607
C1616
C1632
R1623
C1622
R1664
R1654
R1653
R1655
R1609
R1656
R1660
R1657
R1661
R1645
R1641
C1641
C1644
C1642
R1644
R1643
C1645
C1617
C1605
C1606
C1608
C1602
C1603
R2913
R2917
R2911
R2908
R2907
R2909
C2913
R2912
R2910
C2912
R2915
D2903
R2914
R2918
R2916
C2911
C2904
R2901
C2902
C2910
C2906
R2904
D2901
R2903
C2905
C2908
R2922
R2921
R2905
C2916
R1658
CAN

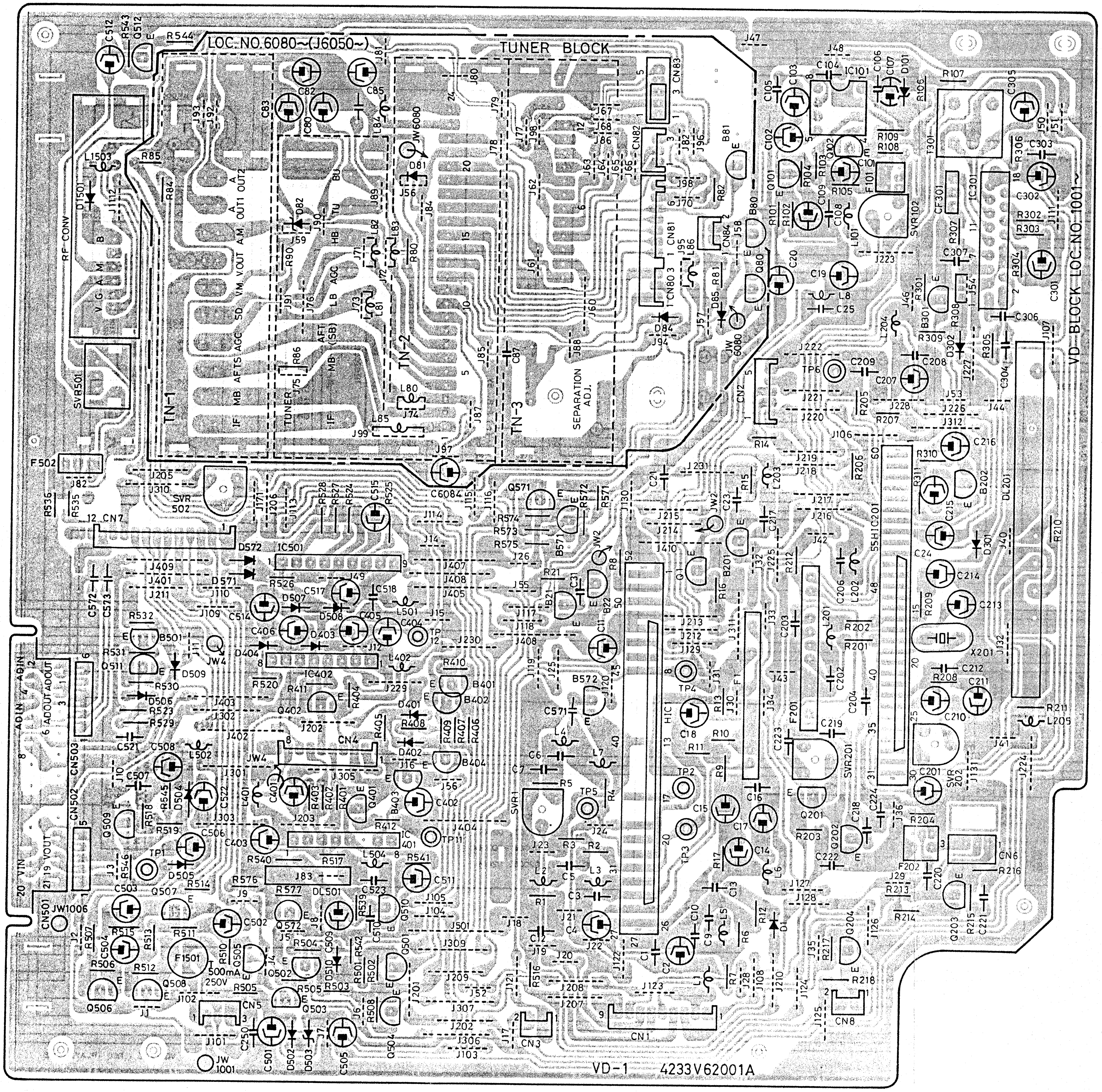
CHIP PARTS

9 10 11 12 13 14 15 16 17 18 19 20 21 22 23

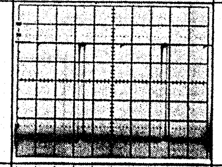
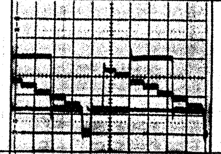
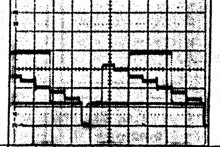
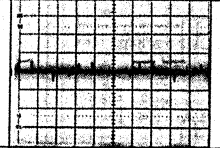
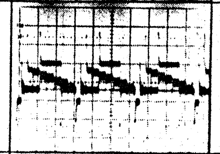
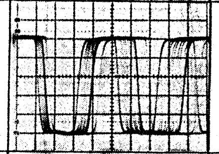
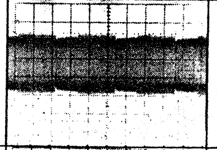
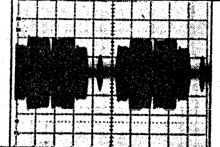
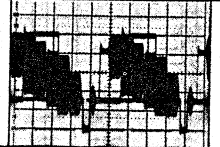
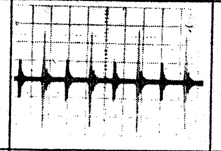
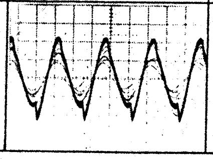
P.C.B. VD-1 VIDEO CIRCUIT (143-0-233V-62001)


K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
L P H
S W H
DIGITAL VIDEO
V L P
PB EE 5V
AGC VIDEO
PB Y
PICTURE
REC Y
B1572 2SC3399 SWITCH
R1005 1K
SVR1001 1K
L1001 100μ
IC1401 LA7016 OUTPUT SWITCH
Q1401 2SA608 BUFFER
Q1509 2SA608 AMP
IC1402 LA7016 DM INPUT SWITCH
Q1402 2SA608 BUFFER
DL1501
Q1510 2SC2839 AMP
CN1501
IC1501 BA7021 INPUT SELECT
Q1101 2SC2839 AMP
Q1102 2SA608 BUFFER
IC1101 M6965 1H DL
HIC1001 EHN-X4672Y05 Y SIGNAL PROCESS
ENV
DOP
HPF
LPF
DL
LIM
EQ
DEM
FT
PB
EXP
AMP
DEMPH
LIM
PICT
MIX
NC
CLP
MUTE
D.CLIP
MOD
MEMPH
W.CLIP
CLIP
DEF
NLDE
NLE
CCR
ATT
AGC
DET
LOGIC
S SEP
L.P.F.
F1001
TP1003
TP1002
TP1004
TP1005
TP1001
TP1012
Q1511 2SA608 SWITCH
B1501 2SC3399 SWITCH
B1021 2SC3399 SWITCH
B1022 2SC3399 SWITCH
F1201
4.43 B P F
1.4 L P F
5.06 B P F
Q1201 2SA608 BUFFER
B1201 2SC3400 SWITCH
Q1202 2SC536 SWITCH
Q1203 2SC536 AMP
B1403 2SC3399 SWITCH
B1401 2SC3399 SWITCH
B1402 2SC3399 SWITCH
B1404 2SC3399 SWITCH
B1301 2SC3399 SWITCH
HIC1201 BX7507-1 C SIGNAL PROCESS
EP.LP.SP
A/P
MAIN CONV
BURST
ACC AMP
SUB CONV
X2
SW
X'TAL OSC
VXO OX
8-ID DET
COUNT DOWN
LOGIC
PS
1/8
PULSE GEN
ACC DET
MISLA.K OUT
APC DET
AFC DET
ACK DET
VCO
IC1301 BA7026 SECAM DISCRIMINATION
LINE AMP
T1301
CF1301
DL1201
2H DL
B1202 2SC3399 SWITCH
D1301 1SS133
D1302 1SS133
REC EE 5V
SWD 5V
SWD 12V
REC 12V
C SYNC
PB 5V
Q1001 2SA608 BUFFER
Q1505 2SC536 (E.F) SWITCH
Q1506 2SB985T SWITCH
Q1572 2SC536 (E.F) SWITCH
Q1504 2SA984 (E.F) SWITCH
Q1501 2SA984 (E.F) SWITCH
Q1502 2SA984 (E.F) SWITCH
Q1503 2SC3807 SWITCH
Q1507 2SC536 (G.F) SWITCH
Q1508 2SA984F SWITCH
Q1571 2SC536 (E F) SWITCH
B1571 2SC3399 SWITCH
F1502
F1501
CN1004
1 DIGITAL VIDEO
2 G N D
3 THROUGH VIDEO
4 AGC VIDEO
5 G N D
6 SWH
7 SRCE 1
8 SRCE 2
TO DN-1 CN8001
CN1006
1 RF SW P
2 ENV
3 G N D
(CHECKER)
CN1001
1 RF SW P
2 PB EE 5V
3 PB C
4 G N D
5 PB Y
6 REC Y
7 G N D
8 REC C
9 REC 12V
TO VP-1 CN1601
CN1502
1 G N D
TO TB-1 CN8001
CN1503
1 AD LCH OUT
2 AD RCH OUT
3 G N D
4 G N D
5 AD LCH IN
6 AD RCH IN
TO TB-1 CN8002
EXT/TU
VIDEO IN(TUNER)
G N D
TO TUNER BLOCK
RF VIDEO OUT
G N D
ALWAYS 5V
RF AUDIO OUT
TO RF CONVERTER
CN1007
1 LP H
2 ALWAYS 5.8V
3 G N D
4 REC H
5 PB H
6 POWER UP
7 SRCE 2
8 SWD 12V
9 SRCE 1
10 EXT H
11 RF IN
12 G N D
TO AD-1 CN2007
CN1005
1 G N D
2 ALWAYS 12V
3 ALWAYS 5.8V
TO PW-1 CN5102
ALWAYS 5.8V
ALWAYS 12V
TO TUNER BLOCK
CN1002
1 RF SW P
2 V L P
3 COMP SYNC
4 FSC
5 G N D
TO SY-1 CN4006
CN1003
1 PICTURE VR
2 SWD 5V
TO TN-5 CN7003
VOLTAGE : REC (PLAY) MODE

P.C.B. VD-1 VIDEO & TUNER (143-0-233V-62001)


LOC.NO.6080~(J6050~)
TUNER BLOCK
TN-1
TN-2
TN-3
SEPARATION ADJ.
VD BLOCK LOC.NO.1001~
RF CONV
SVR501
SVR502
SVR1
SVR201
SVR202
SVR102
IC501
IC402
IC401
IC101
IC301
55HIC201
HIC
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
CN501
CN502
CN503
F1501
500mA 250V
F502
TP1
TP2
TP3
TP4
TP5
TP6
TP11
TP12
X201
DL201
DL501
VD-1 4233V62001A

WAVEFORM OF VIDEO

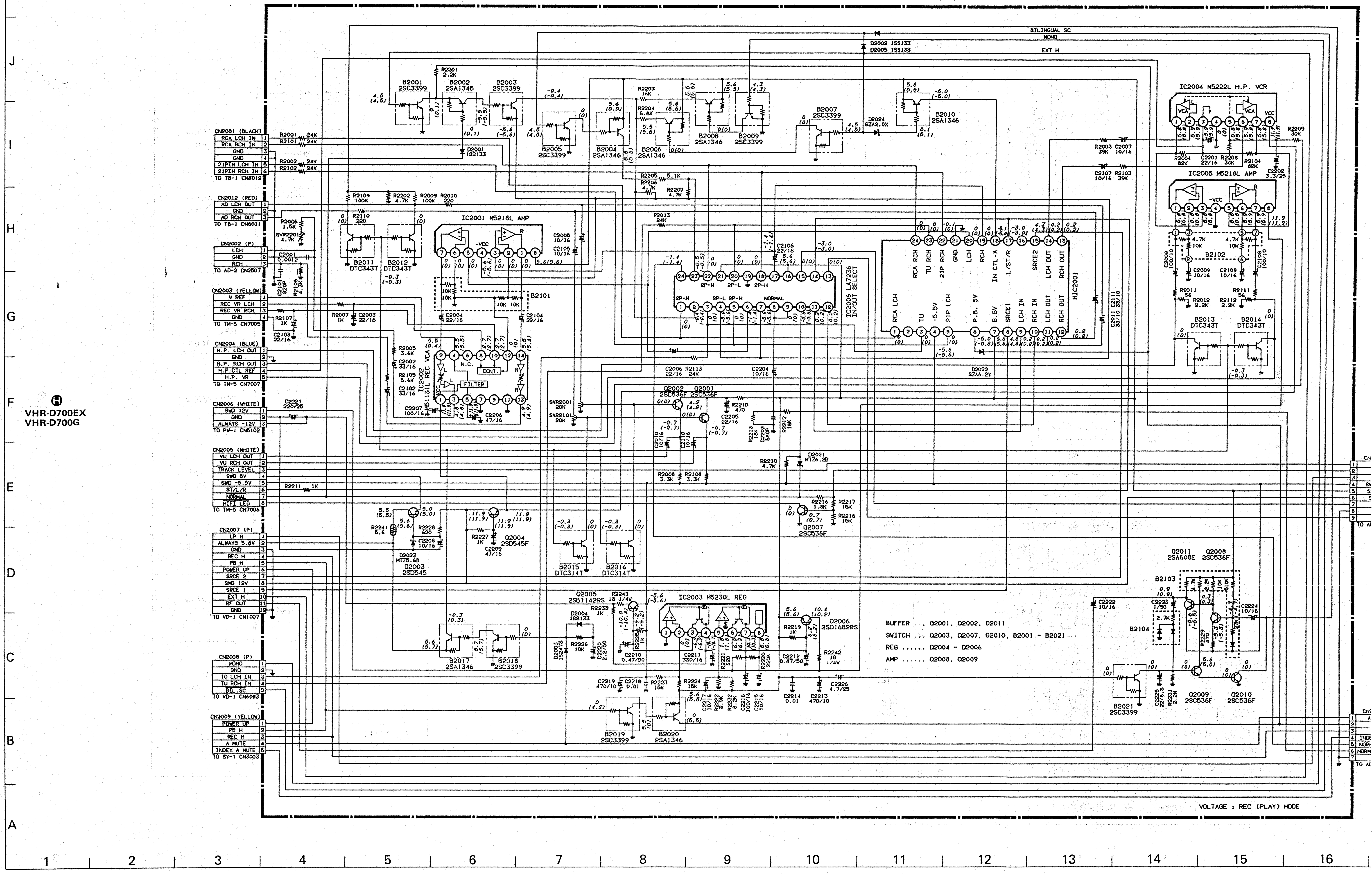
Pin No.		
HIC 1001 (4)		1V/div 5 Vp-p
TP 1003		100 mV/div 400 m Vp-p
TP 1003		100 mV/div 400 m Vp-p
TP 1003 TP 1004		50 mV/div
TP 1002		REC 2 div=100%
TP 1005		200 mV/div 1 Vp-p
HIC 1001 (34)		PLAY 100 m V/div 350 m Vp-p
HIC 1001 (2)		100 mV/div 400 m Vp-p
TP 1001		200 mV/div 1 Vp-p
IC 1301 (9)		REC SECAM 100 mV/div
IC 1301 (11)		REC SECAM 1 V/div

Ⓖ
VHR-D700EX
VHR-D700G

16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31

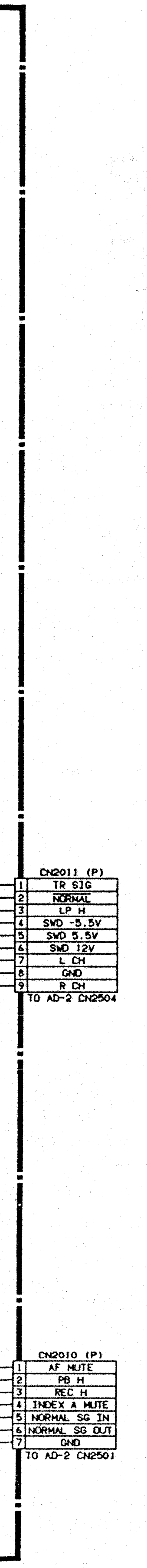
P.C.B. AD-1 AUDIO SELECT CIRCUIT (143-0-233V-65650)

Ⓗ
VHR-D700EX
VHR-D700G

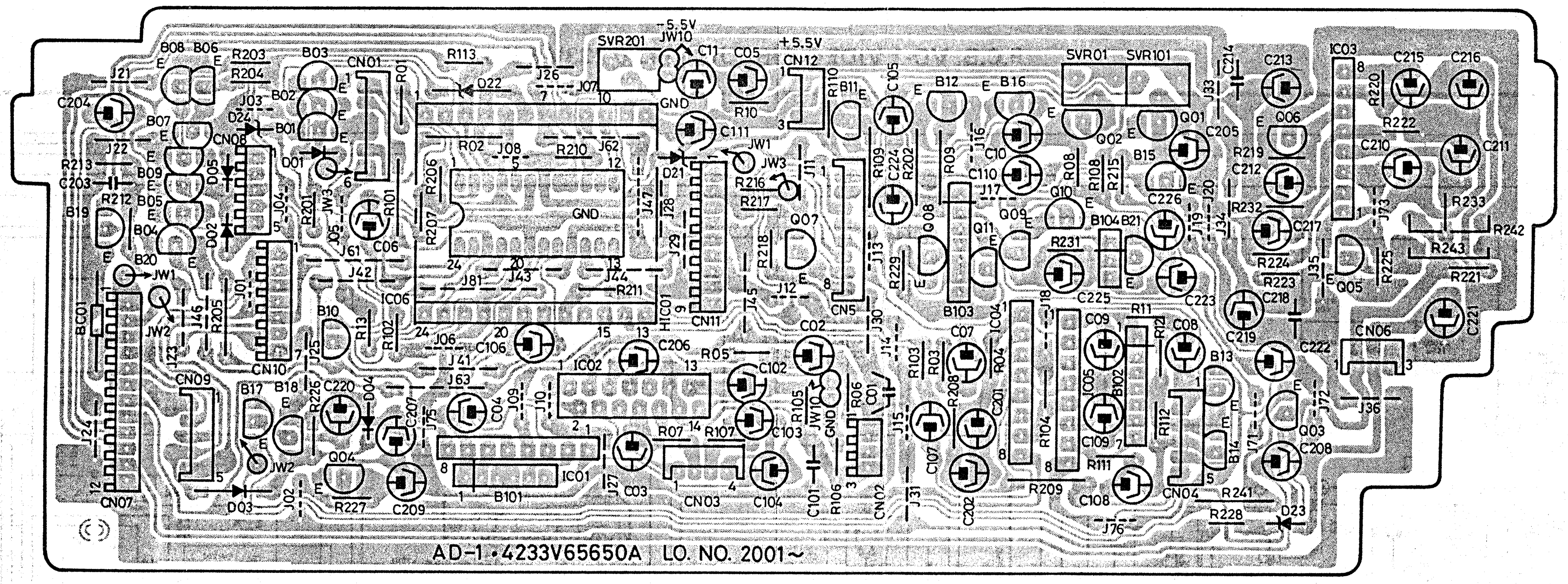

K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
CN2001 (BLACK)
RCA LCH IN
RCA RCH IN
GND
GND
21PIN LCH IN
21PIN RCH IN
TO TB-1 CN8012
CN2012 (RED)
AD LCH OUT
GND
AD RCH OUT
TO TB-1 CN8011
CN2002 (P)
LCH
GND
RCH
TO AD-2 CN2507
CN2003 (YELLOW)
V REF
REC VR LCH
REC VR RCH
GND
TO TM-5 CN7005
CN2004 (BLUE)
H.P. LCH OUT
GND
H.P. RCH OUT
H.P.CTL REF
H.P. VR
TO TM-5 CN7007
CN2006 (WHITE)
SWD 12V
GND
ALWAYS -12V
TO PW-1 CN5102
CN2005 (WHITE)
VU LCH OUT
VU RCH OUT
TRACK LEVEL
SWD 5V
SWD -5.5V
ST/L/R
NORMAL
HIFI LED
TO TM-5 CN7006
CN2007 (P)
LP H
ALWAYS 5.8V
GND
REC H
PB H
POWER UP
SRCE 2
SWD 12V
SRCE 1
EXT H
RF OUT
GND
TO VD-1 CN1007
CN2008 (P)
MONO
GND
TO LCH IN
TU RCH IN
BIL.SC
TO VD-1 CN6083
CN2009 (YELLOW)
POWER UP
PB H
REC H
A MUTE
INDEX A MUTE
TO SY-1 CN3003
BILINGUAL SC
MONO
EXT H
D2002 1SS133
D2005 1SS133
IC2001 M5218L AMP
IC2002 M51131L REC VCA
IC2003 M5230L REG
IC2004 M5222L H.P. VCR
IC2005 M5218L AMP
IC2006 LA7236 IN/OUT SELECT
HIC2001
B2001 2SC3399
B2002 2SA1345
B2003 2SC3399
B2005 2SC3399
B2004 2SA1346
B2006 2SA1346
B2008 2SA1346
B2009 2SC3399
B2007 2SC3399
B2010 2SA1346
B2011 DTC343T
B2012 DTC343T
B2013 DTC343T
B2014 DTC343T
B2015 DTC314T
B2016 DTC314T
B2017 2SA1346
B2018 2SC3399
B2019 2SC3399
B2020 2SA1346
B2021 2SC3399
Q2001 2SC536F
Q2002 2SC536F
Q2003 2SD545
Q2004 2SD545F
Q2005 2SB1142RS
Q2006 2SD1682RS
Q2007 2SC536F
Q2008 2SC536F
Q2009 2SC536F
Q2010 2SC536F
Q2011 2SA608E
D2024 GZA2.0X
D2022 GZA6.2Y
D2021 MTZ6.2B
D2023 MTZ5.6B
D2001 1SS133
D2004 1SS133
D2003 1S2473
SVR2001 20K
SVR2101 20K
FILTER
CONT.
N.C.
2P-H
2P-L
NORMAL
RCA RCH
TU RCH
21P RCH
GND
LCH
RCH
IN CTL-A
L/ST/R
SRCE2
LCH OUT
RCH OUT
RCA LCH
TU
-5.5V
21P LCH
P.B. 5V
5.5V
SRCE1
LCH IN
RCH IN
VCA
VCC
-VCC

BUFFER ... Q2001, Q2002, Q2011
SWITCH ... Q2003, Q2007, Q2010, B2001 ~ B2021
REG ...... Q2004 ~ Q2006
AMP Q2008, Q2009

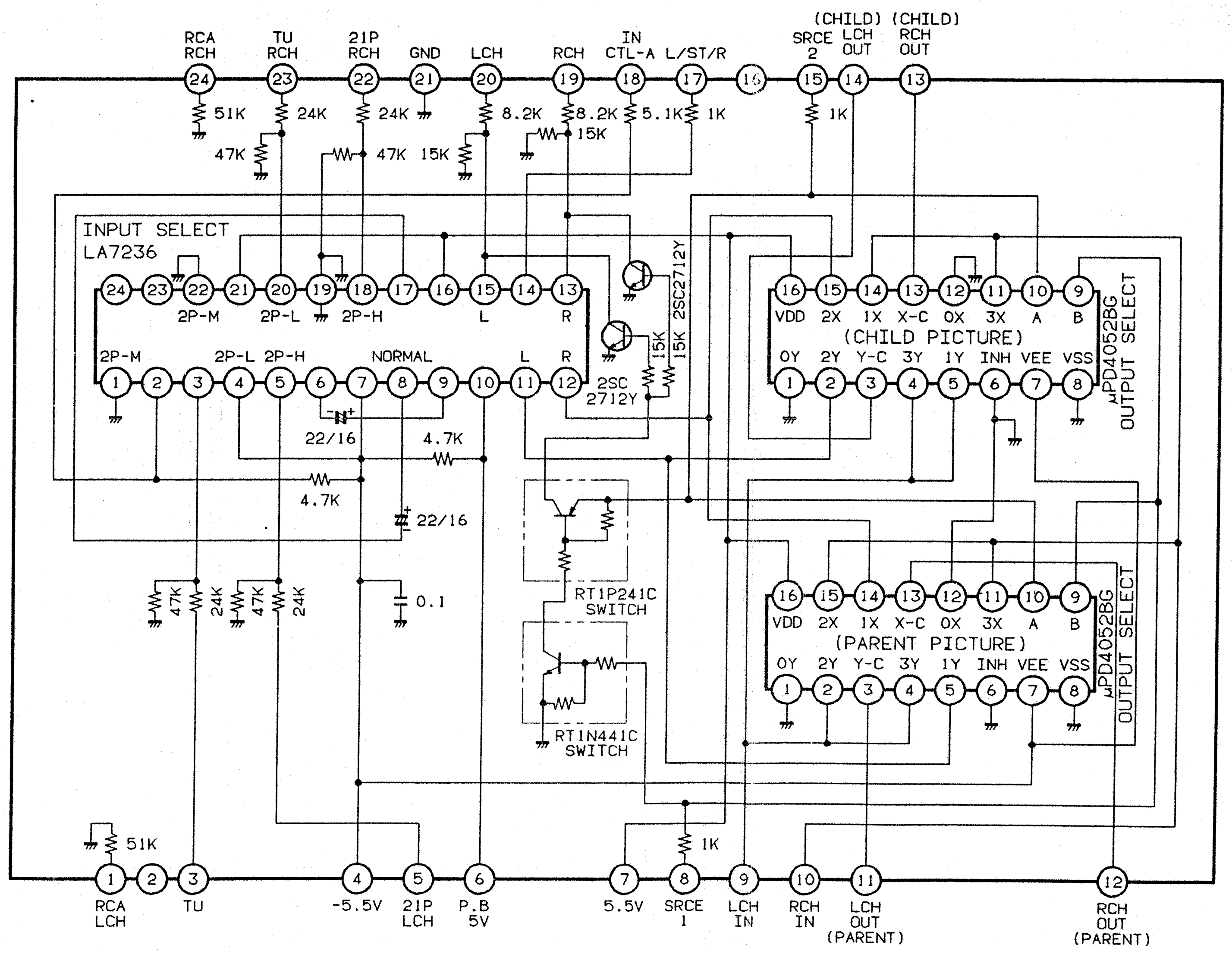
VOLTAGE : REC (PLAY) MODE


CN2011 (P)
1 TR SIG
2 NORMAL
3 LP H
4 SWD -5.5V
5 SWD 5.5V
6 SWD 12V
7 L CH
8 GND
9 R CH
TO AD-2 CN2504
CN2010 (P)
1 AF MUTE
2 PB H
3 REC H
4 INDEX A MUTE
5 NORMAL SG IN
6 NORMAL SG OUT
7 GND
TO AD-2 CN2501

P.C.B. AD-1 AUDIO SELECT (143-0-233V-65650)


AD-1・4233V65650A LO. NO. 2001~
-5.5V
+5.5V
SVR201
JW10
SVR01
SVR101
CN01
CN02
CN03
CN04
CN05
CN06
CN07
CN08
CN09
CN10
CN11
CN12
IC01
IC02
IC03
IC04
IC05
IC06
HIC01
GND
B101
B103
B104
C204
C203
R213
R212
B19
B20
BC01
D22
D23
Q01
Q02
Q03
Q04
Q05
Q06
Q07
Q08
Q09
Q10
Q11

HIC2001 CIRCUIT

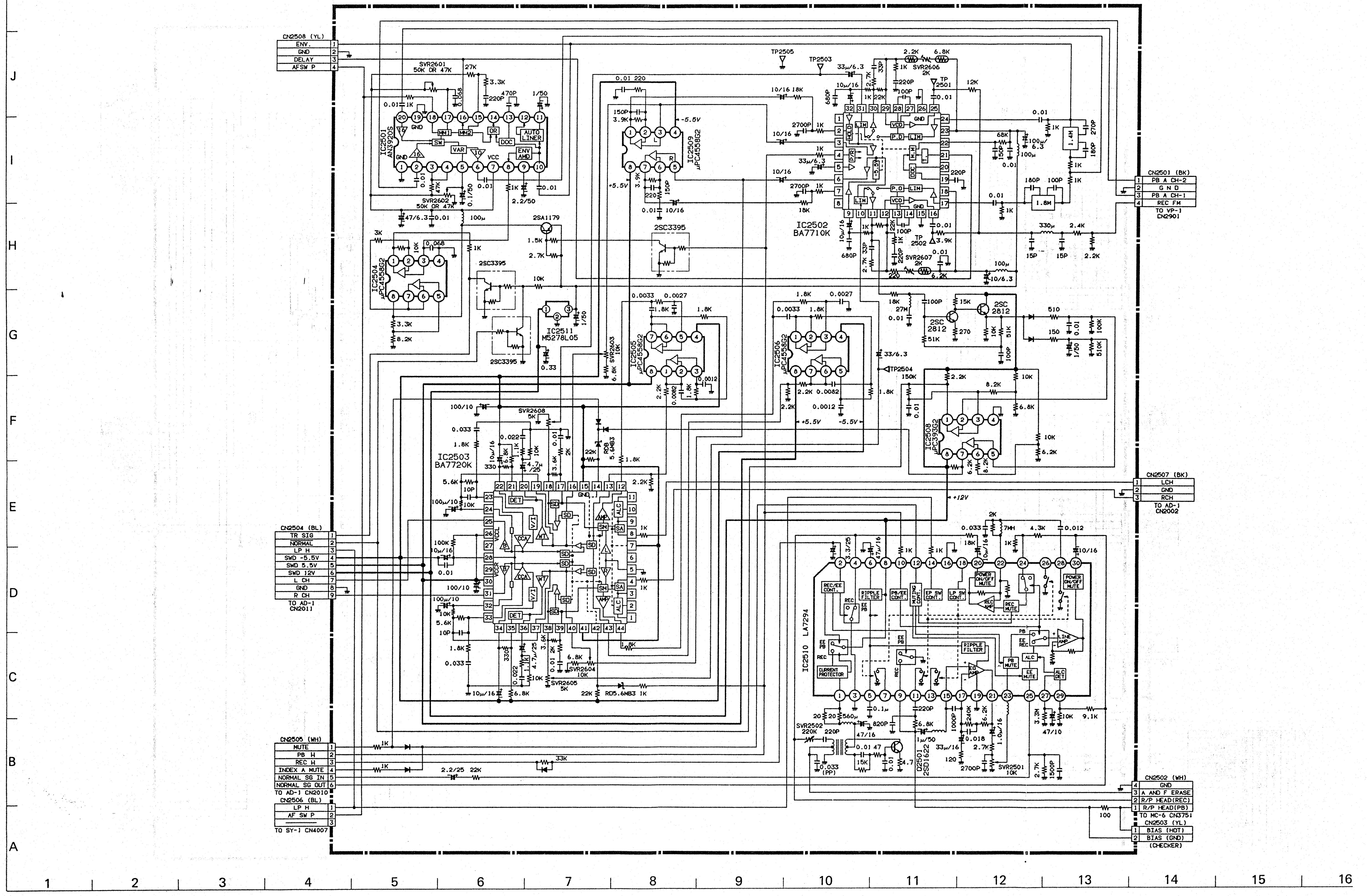

RCA RCH
TU RCH
21P RCH
GND
LCH
RCH
IN CTL-A
L/ST/R
SRCE 2
(CHILD) LCH OUT
(CHILD) RCH OUT
24
23
22
21
20
19
18
17
16
15
14
13
51K
24K
24K
8.2K
8.2K
5.1K
1K
1K
47K
47K
15K
15K
INPUT SELECT
LA7236
2P-M
2P-L
2P-H
L
R
NORMAL
22/16
4.7K
4.7K
22/16
0.1
47K
24K
47K
24K
2SC2712Y
2SC 2712Y
15K
15K
RT1P241C SWITCH
RT1N441C SWITCH
VDD 2X 1X X-C 0X 3X A B
(CHILD PICTURE)
0Y 2Y Y-C 3Y 1Y INH VEE VSS
µPD4052BG OUTPUT SELECT
(PARENT PICTURE)
µPD4052BG OUTPUT SELECT
51K
1K
1
2
3
4
5
6
7
8
9
10
11
12
RCA LCH
TU
-5.5V
21P LCH
P.B 5V
5.5V
SRCE 1
LCH IN
RCH IN
LCH OUT (PARENT)
RCH OUT (PARENT)

µPD4052BG

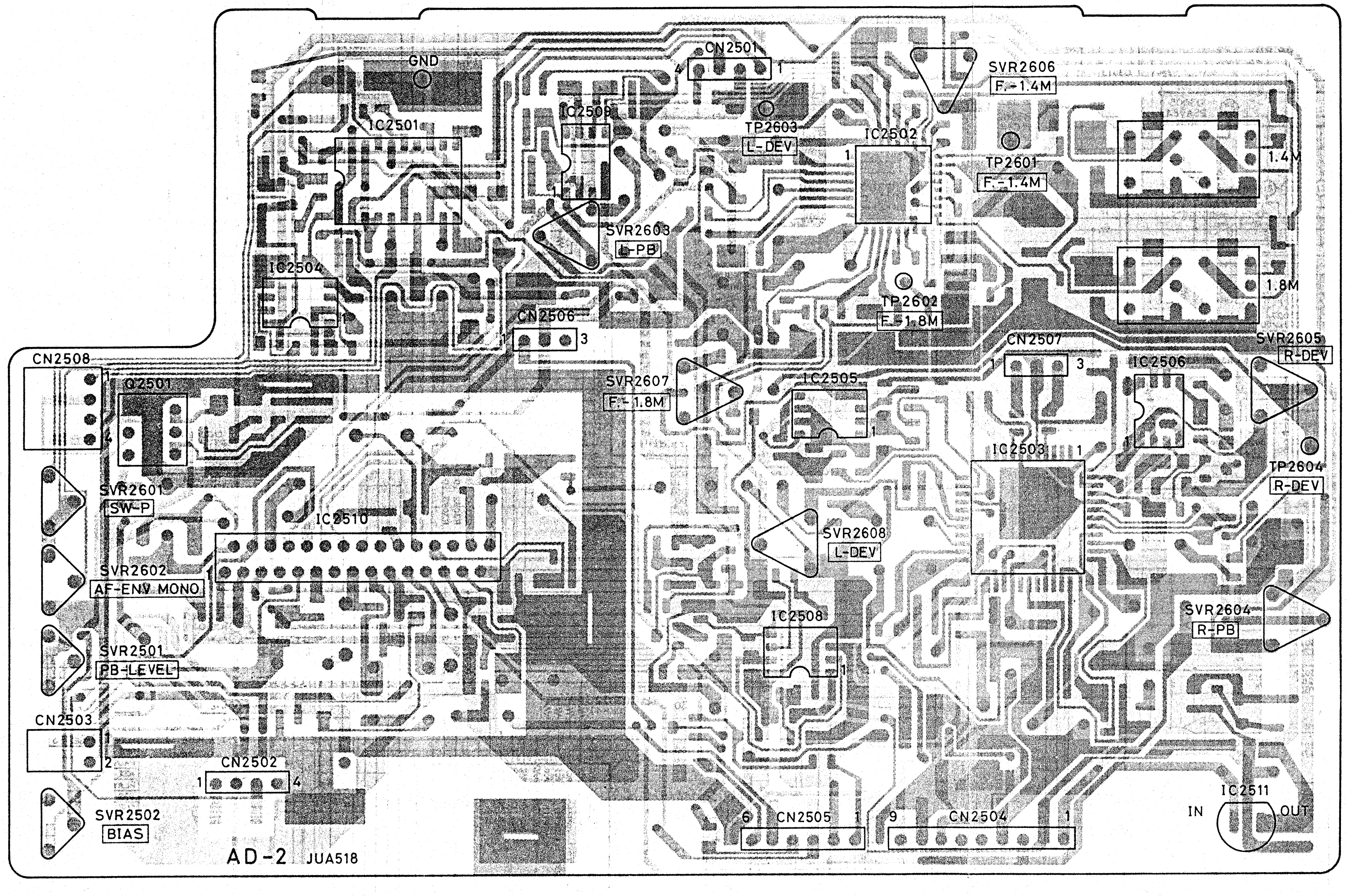
A	B	
L	L	0X, Y
H	L	1X, Y
L	H	2X, Y
H	H	3X, Y

17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

P.C.B. AD-2 AUDIO CIRCUIT & P.C.B. (143-0-233V-66600)


CN2508 (YL)
1 ENV.
2 GND
3 DELAY
4 AFSW P
SVR2601 50K OR 47K
SVR2602 50K OR 47K
IC2501 AN3920S
IC2509 μPC4558G2
IC2502 BA7710K
IC2504 μPC4558G2
IC2505 μPC4558G2
IC2506 μPC4558G2
IC2508 μPC4558G2
IC2511 M5278L05
IC2503 BA7720K
IC2510 LA7294
2SA1179
2SC3395
2SC2812
Q2501 2SD1622
SVR2603 10K
SVR2604 10K
SVR2605 5K
SVR2606 2K
SVR2607 2K
SVR2608 5K
SVR2501 10K
SVR2502 220K
TP2501
TP2502
TP2503
TP2504
TP2505
RD5.6MB3
-5.5V
+5.5V
+12V
CN2501 (BK)
1 PB A CH-2
2 G N D
3 PB A CH-1
4 REC FM
TO VP-1 CN2901
CN2507 (BK)
1 LCH
2 GND
3 RCH
TO AD-1 CN2002
CN2504 (BL)
1 TR SIG
2 NORMAL
3 LP H
4 SWD -5.5V
5 SWD 5.5V
6 SWD 12V
7 L CH
8 GND
9 R CH
TO AD-1 CN2011
CN2505 (WH)
1 MUTE
2 PB H
3 REC H
4 INDEX A MUTE
5 NORMAL SG IN
6 NORMAL SG OUT
TO AD-1 CN2010
CN2506 (BL)
1 LP H
2 AF SW P
3 ———
TO SY-1 CN4007
CN2502 (WH)
4 GND
3 A AND F ERASE
2 R/P HEAD(REC)
1 R/P HEAD(PB)
TO MC-6 CN3751
CN2503 (YL)
1 BIAS (HOT)
2 BIAS (GND)
(CHECKER)
K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

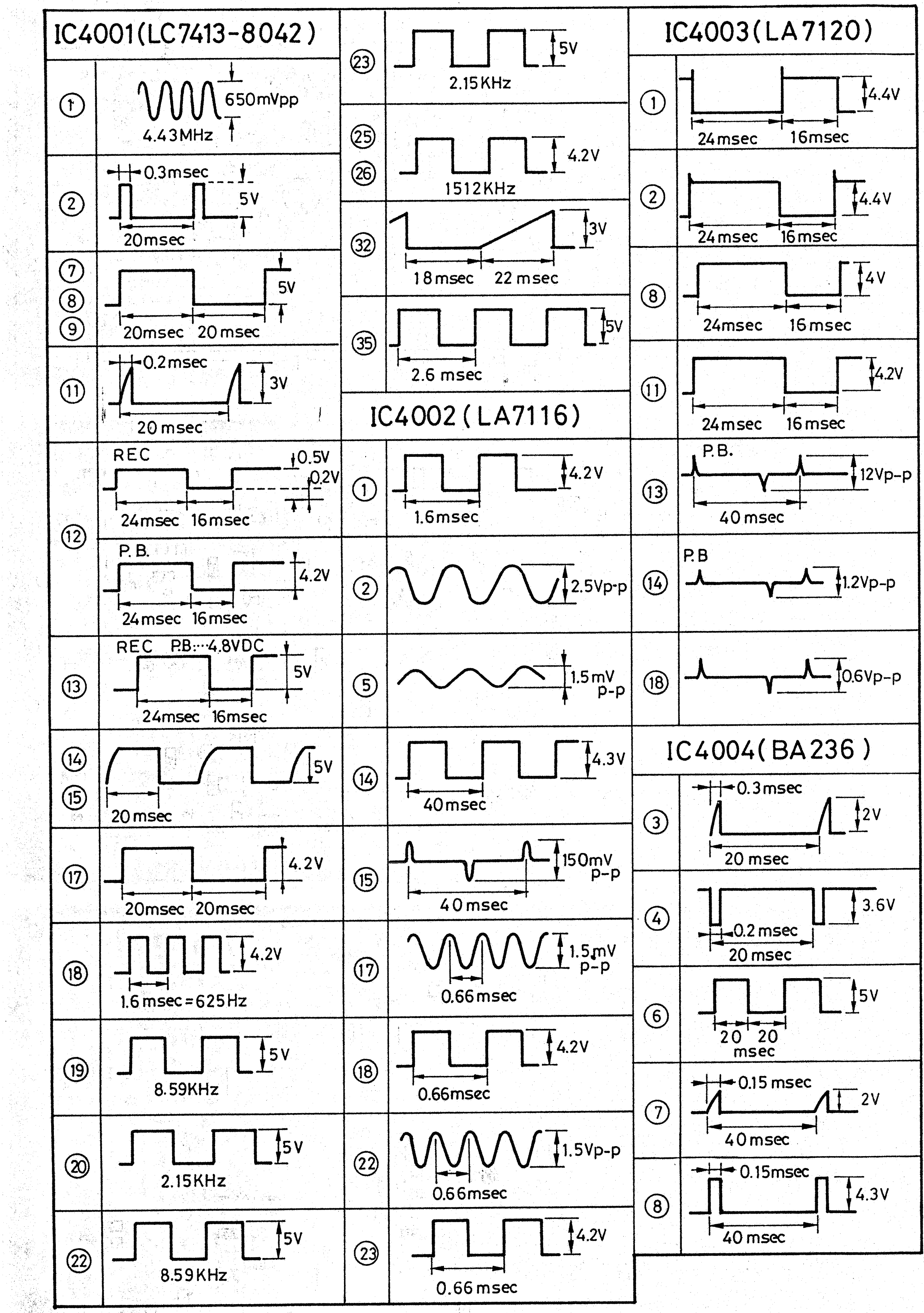
P.C.B. AD-2 AUDIO (143-0-233V-66600)


GND
CN2501
4
1
IC2501
IC2509
TP2603
L-DEV
IC2502
SVR2606
F.-1.4M
TP2601
F.-1.4M
1.4M
1.8M
SVR2603
L-PB
IC2504
TP2602
F.-1.8M
CN2506
3
CN2507
SVR2605
R-DEV
CN2508
Q2501
SVR2607
F.-1.8M
IC2505
IC2506
IC2503
TP2604
R-DEV
SVR2601
SW-P
IC2510
SVR2608
L-DEV
SVR2602
AF-ENV MONO
IC2508
SVR2604
R-PB
SVR2501
PB-LEVEL
CN2503
1
2
CN2502
1
4
IC2511
IN
OUT
SVR2502
BIAS
6
CN2505
1
9
CN2504
1
AD-2
JUA518

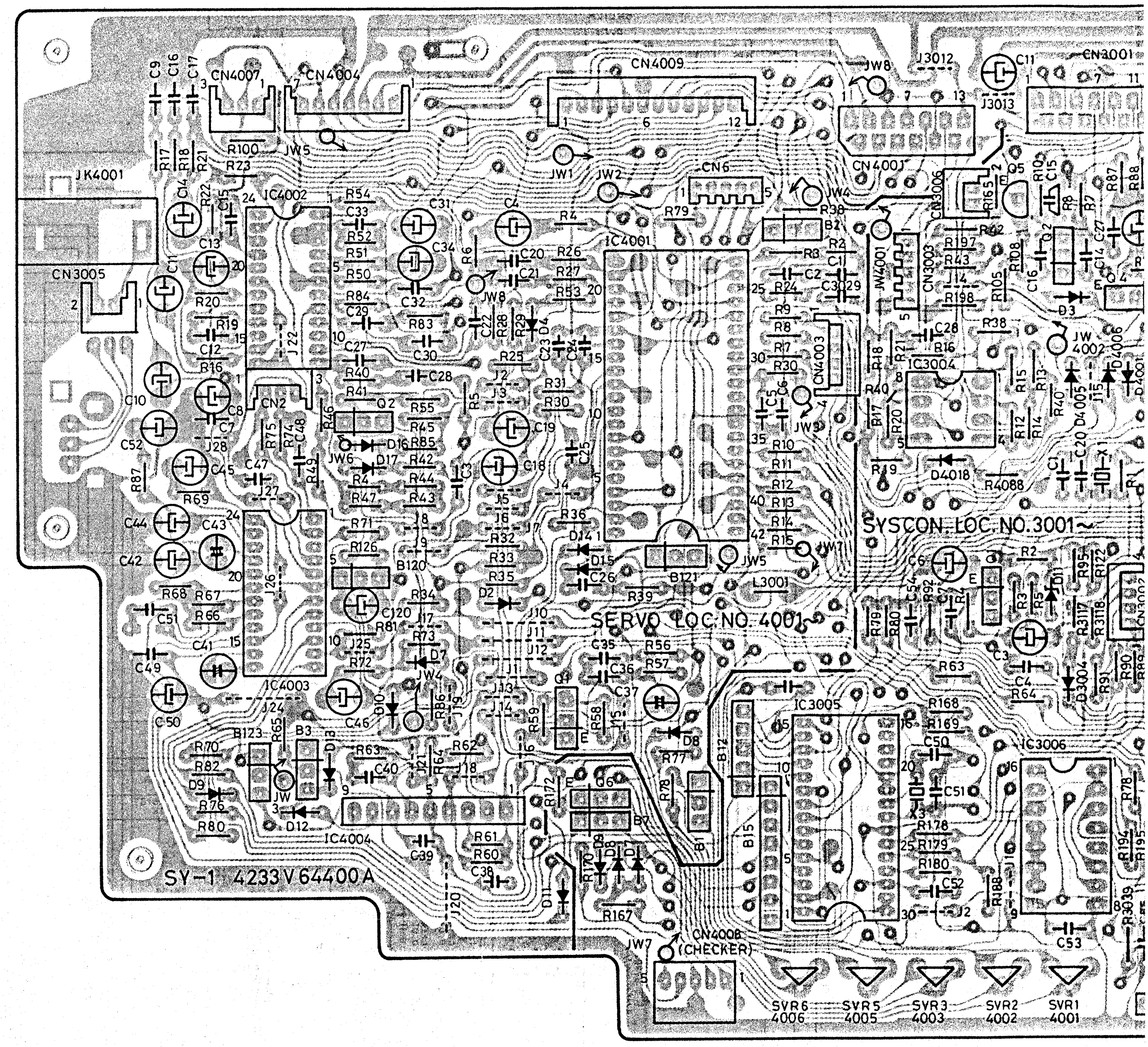
❶
VHR-D700EX
VHR-D700G

17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31

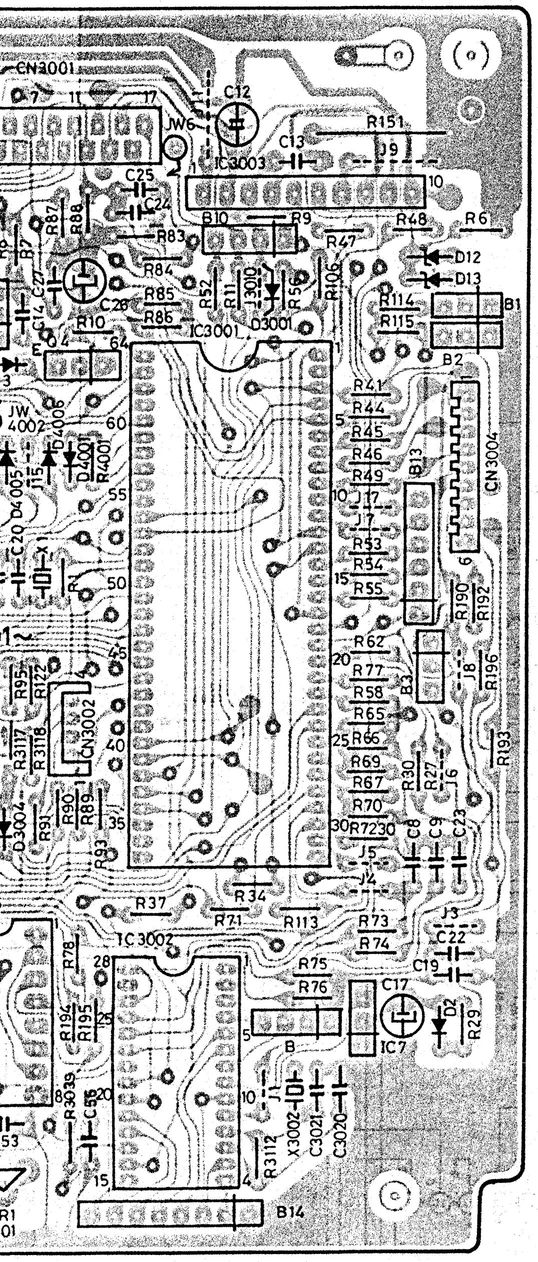
WAVEFORM OF SERVO


IC4001(LC7413-8042)
① 650mVpp 4.43MHz
② 0.3msec 5V 20msec
⑦ ⑧ ⑨ 5V 20msec 20msec
⑪ 0.2msec 3V 20msec
⑫ REC 0.5V 0.2V 24msec 16msec
P.B. 4.2V 24msec 16msec
⑬ REC P.B.···4.8VDC 5V 24msec 16msec
⑭ ⑮ 5V 20msec
⑰ 4.2V 20msec 20msec
⑱ 4.2V 1.6msec=625Hz
⑲ 5V 8.59KHz
⑳ 5V 2.15KHz
㉒ 5V 8.59KHz
㉓ 5V 2.15KHz
㉕ ㉖ 4.2V 1512KHz
㉜ 3V 18msec 22msec
㉟ 5V 2.6msec
IC4002(LA7116)
① 4.2V 1.6msec
② 2.5Vp-p
⑤ 1.5mV p-p
⑭ 4.3V 40msec
⑮ 150mV p-p 40msec
⑰ 1.5mV p-p 0.66msec
⑱ 4.2V 0.66msec
㉒ 1.5Vp-p 0.66msec
㉓ 4.2V 0.66msec
IC4003(LA7120)
① 4.4V 24msec 16msec
② 4.4V 24msec 16msec
⑧ 4V 24msec 16msec
⑪ 4.2V 24msec 16msec
⑬ P.B. 12Vp-p 40msec
⑭ P.B 1.2Vp-p
⑱ 0.6Vp-p
IC4004(BA236)
③ 0.3msec 2V 20msec
④ 3.6V 0.2msec 20msec
⑥ 5V 20 20 msec
⑦ 0.15msec 2V 40msec
⑧ 0.15msec 4.3V 40msec

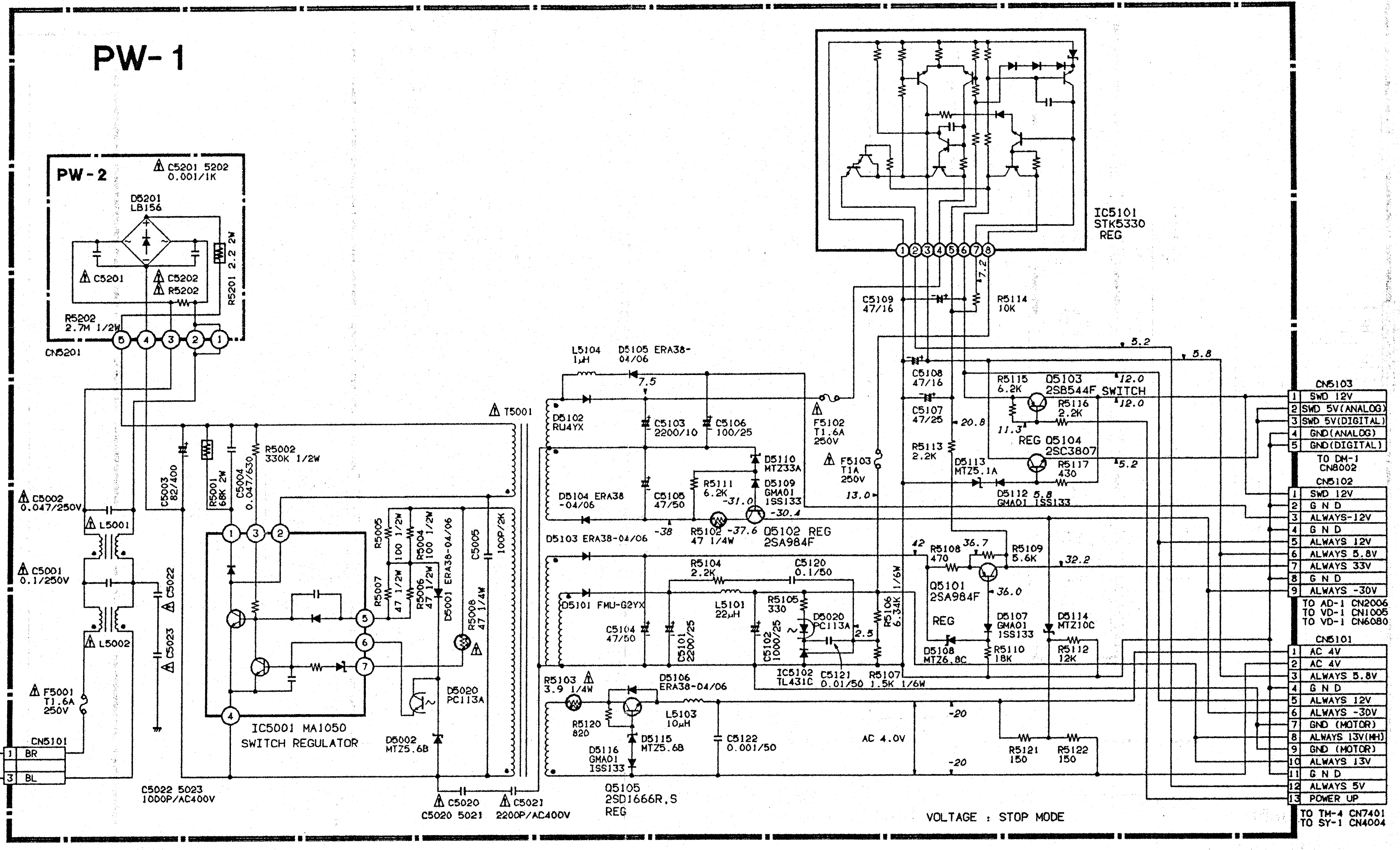
P.C.B. SY-1 SYSTEM CONTROL & SERVO (143-0-233V-6442


SY-1 4233V64400A
SYSCON. LOC. NO. 3001~
SERVO LOC. NO. 4001~
IC4001
IC4002
IC4003
IC4004
IC3004
IC3005
IC3006
CN4007
CN4004
CN4009
CN4001
CN4003
CN3005
CN3004
CN3003
CN3006
CN3001
CN6
CN2
JK4001
J3012
J3013
CN4008 (CHECKER)
JW1
JW2
JW4
JW5
JW6
JW7
JW8
SVR6 4006
SVR5 4005
SVR3 4003
SVR2 4002
SVR1 4001
L3001
D4018
R4088

V-64422)

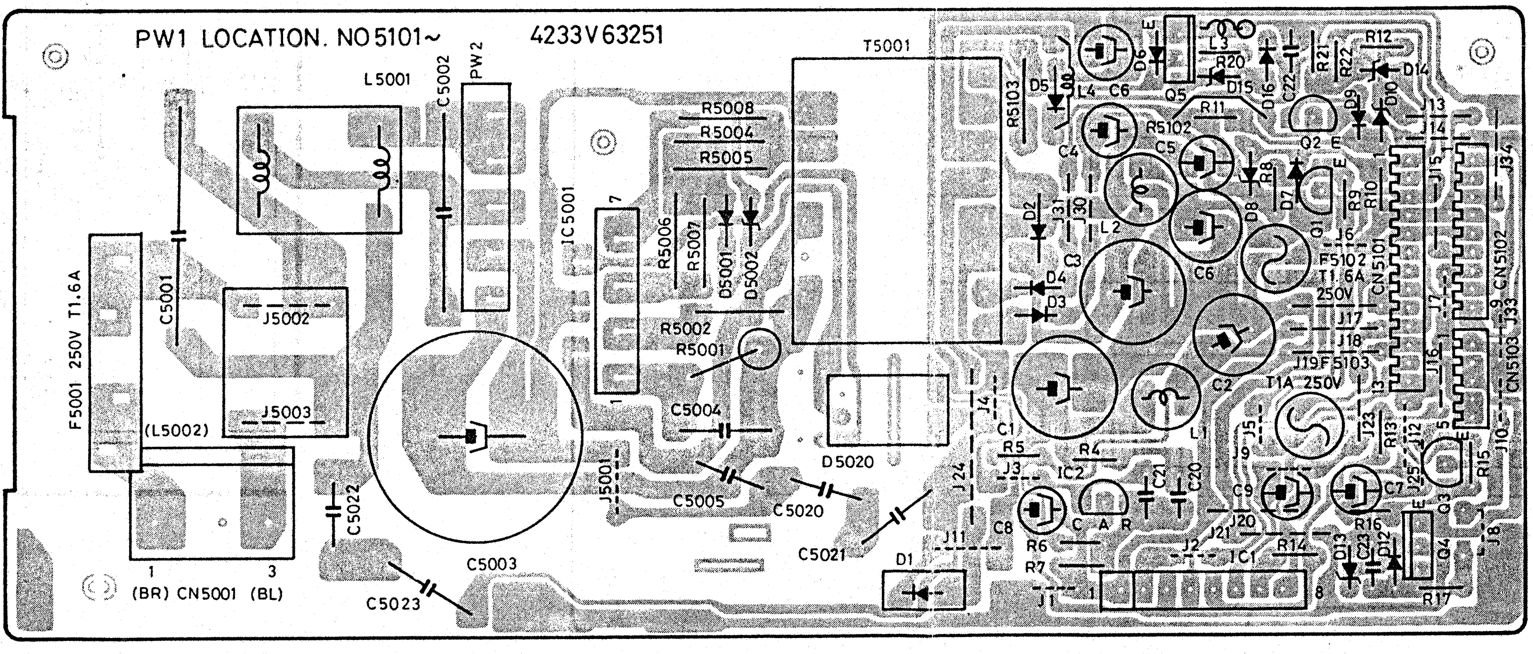

CN3001
C12
R151
IC3003
C13
C25
C24
JW6
R83
R84
R85
R86
R87
R88
R10
C28
R52
R11
D3001
IC3001
R47
R48
R6
D12
D13
R114
R115
B1
B2
B10
R9
R106
R41
R44
R45
R46
R49
R53
R54
R55
R62
R77
R58
R65
R66
R69
R67
R70
R72
R30
R27
C8
C9
C23
CN3004
R190
R192
R196
R193
CN3002
B13
J5
J4
R34
R37
R71
R113
R73
R74
C22
C19
IC3002
R75
R76
C17
D2
R29
IC7
R78
R194
R195
R3039
R3112
X3002
C3021
C3020
J1
B14

P.C.B. PW-1,2 POWER SUPPLY CIRCUIT & P.C.B. (PW-1 143-0-233V-63251)
(PW-2 143-0-233V-63351)

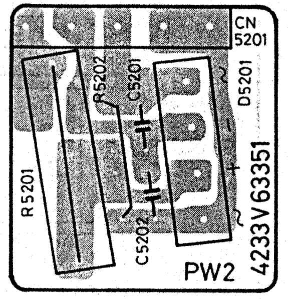

PW-1
PW-2
C5201 5202 0.001/1K
D5201 LB156
C5201
C5202
R5202
R5201 2.2 2W
R5202 2.7M 1/2W
CN5201
T5001
C5002 0.047/250V
L5001
C5001 0.1/250V
L5002
F5001 T1.6A 250V
AC INPUT
CN5101
BR
BL
C5003 82/400
R5001 68K 2W
C5004 0.047/630
R5002 330K 1/2W
C5022
C5023
C5022 5023 1000P/AC400V
IC5001 MA1050
SWITCH REGULATOR
R5005 47 1/2W
R5004 100 1/2W
R5007 47 1/2W
R5006 47 1/2W
D5001 ERA38-04/06
R5008 47 1/4W
C5005 100P/2K
D5002 MTZ5.6B
D5020 PC113A
C5020
C5021
C5020 5021 2200P/AC400V
L5104 1μH
D5105 ERA38-04/06
D5102 RU4YX
C5103 2200/10
C5106 100/25
D5110 MTZ33A
D5104 ERA38-04/06
C5105 47/50
R5111 6.2K
D5109 GMA01 1SS133
R5102 47 1/4W
Q5102 REG 2SA984F
D5103 ERA38-04/06
D5101 FMU-G2YX
C5104 47/50
C5101 2200/25
L5101 22μH
R5104 2.2K
C5120 0.1/50
R5105 330
D5020 PC113A
C5102 1000/25
R5106 6.34K 1/6W
IC5102 TL431C
C5121 0.01/50
R5107 1.5K 1/6W
R5103 3.9 1/4W
D5106 ERA38-04/06
R5120 820
L5103 10μH
C5122 0.001/50
D5116 GMA01 1SS133
D5115 MTZ5.6B
Q5105 2SD1666R,S REG
AC 4.0V
F5102 T1.6A 250V
F5103 T1A 250V
IC5101 STK5330 REG
C5109 47/16
R5114 10K
C5108 47/16
C5107 47/25
R5115 6.2K
D5103 2SB544F SWITCH
R5116 2.2K
REG Q5104 2SC3607
R5113 2.2K
D5113 MTZ5.1A
R5117 430
D5112 GMA01 1SS133
R5108 470
R5109 5.6K
Q5101 2SA984F
REG
D5107 GMA01 1SS133
D5114 MTZ10C
D5108 MTZ6.8C
R5110 18K
R5112 12K
R5121 150
R5122 150
5.2
5.8
12.0
20.8
11.3
13.0
-31.0
-30.4
-37.6
-38
7.5
42
36.7
36.0
32.2
2.5
-20
CN5103
1 SWD 12V
2 SWD 5V(ANALOG)
3 SWD 5V(DIGITAL)
4 GND(ANALOG)
5 GND(DIGITAL)
TO DM-1 CN8002
CN5102
1 SWD 12V
2 GND
3 ALWAYS -12V
4 GND
5 ALWAYS 12V
6 ALWAYS 5.8V
7 ALWAYS 33V
8 GND
9 ALWAYS -30V
TO AD-1 CN2006
TO VD-1 CN1005
TO VD-1 CN6080
CN5101
1 AC 4V
2 AC 4V
3 ALWAYS 5.8V
4 GND
5 ALWAYS 12V
6 ALWAYS -30V
7 GND (MOTOR)
8 ALWAYS 13V(HH)
9 GND (MOTOR)
10 ALWAYS 13V
11 GND
12 ALWAYS 5V
13 POWER UP
TO TM-4 CN7401
TO SY-1 CN4004
VOLTAGE : STOP MODE

Ⓚ
VHR-D700EX
VHR-D700G

(PW-1 143-0-233V-63251)


PW1 LOCATION. NO5101~
4233V63251
T5001
L5001
C5002
PW2
R5008
R5004
R5005
IC5001
R5006
R5007
D5001
D5002
R5002
R5001
C5004
C5005
C5020
C5021
D5020
C5001
J5002
J5003
J5001
F5001 250V T1.6A
(L5002)
C5022
C5003
C5023
1
3
(BR) CN5001 (BL)
R5103
D5
L4
C6
Q5
R11
R20
C22
R21
R22
R12
D14
D6
D15
R5102
C4
C5
Q2
D2
D8
D7
D9
D10
L2
Q1
R9
R10
J6
D4
D3
C6
F5102 T1.6A 250V
CN5101
CN5102
J15
J34
J17
J18
J19 F5103 T1A 250V
CN5103
J33
C2
L1
R13
R15
C1
R5
R4
J3
IC2
C21
C20
J9
C9
C7
C8
R6
R7
J20
J21
J11
J24
J2
IC1
R14
R16
D13
D12
Q4
Q3
R17
D1
8

(PW-2 143-0-233V-63351)


CN 5201
R5202
C5201
D5201
R5201
C5202
PW2
4233V63351

16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31

K

J

I

H

G

F

E

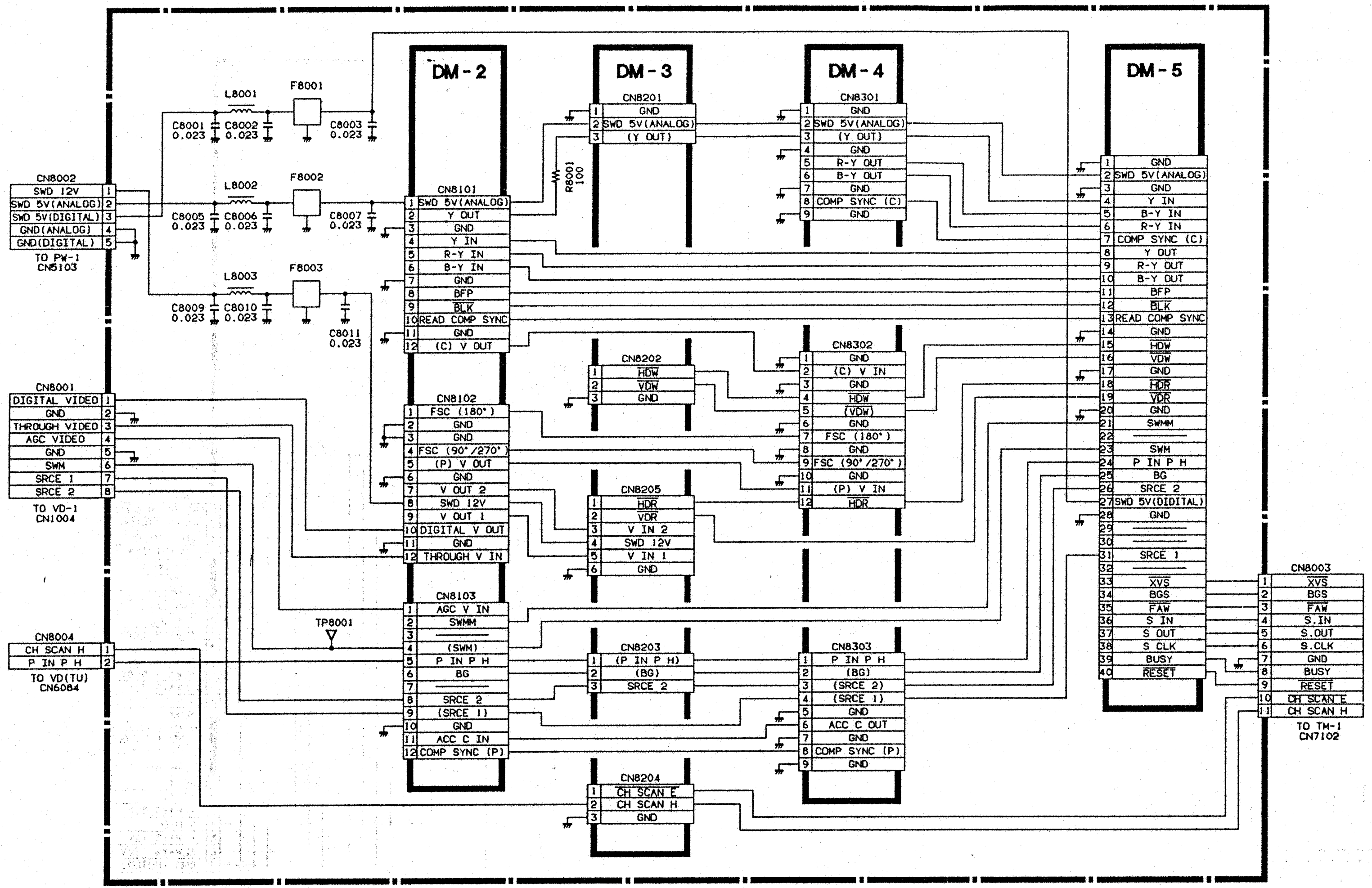
D

C

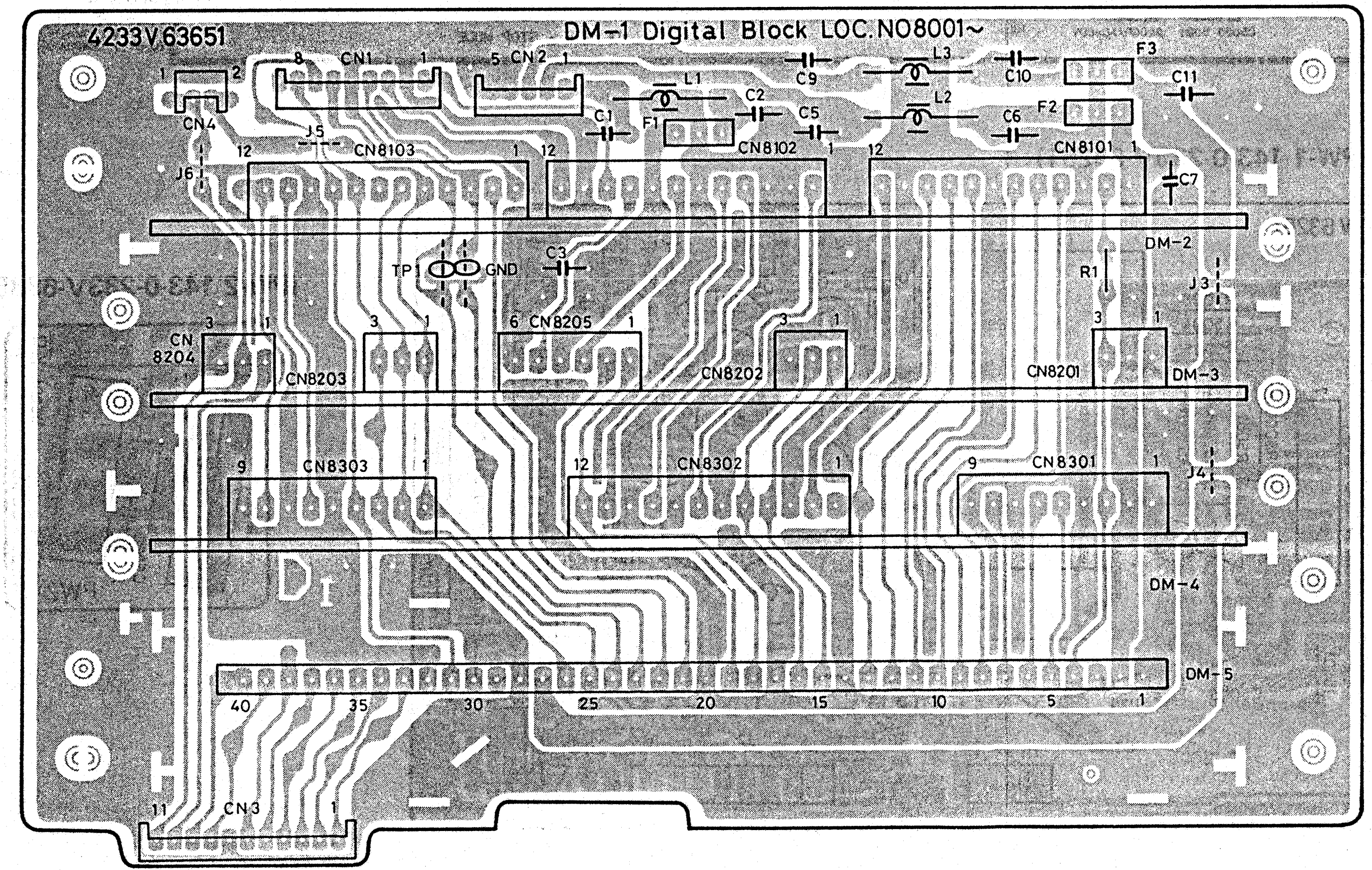
B

A

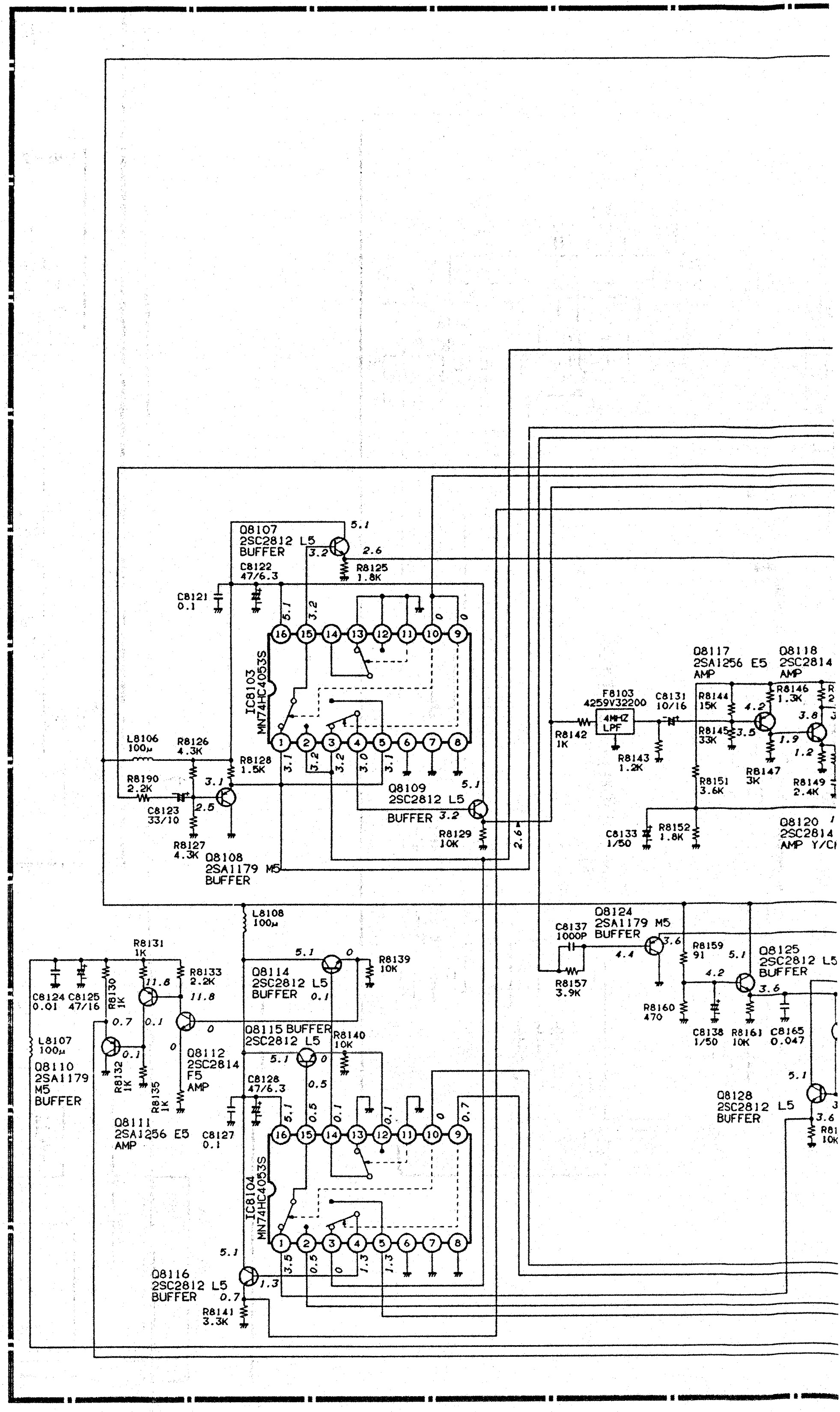
P.C.B. DM-1 DM CONNECTION CIRCUIT & P.C.B. (143-0-233V-63651)


DM-2
DM-3
DM-4
DM-5
CN8002
SWD 12V
SWD 5V(ANALOG)
SWD 5V(DIGITAL)
GND(ANALOG)
GND(DIGITAL)
TO PW-1 CN5103
L8001
L8002
L8003
F8001
F8002
F8003
C8001 0.023
C8002 0.023
C8003 0.023
C8005 0.023
C8006 0.023
C8007 0.023
C8009 0.023
C8010 0.023
C8011 0.023
R8001 100
CN8001
DIGITAL VIDEO
THROUGH VIDEO
AGC VIDEO
SWM
SRCE 1
SRCE 2
TO VD-1 CN1004
CN8004
CH SCAN H
P IN P H
TO VD(TU) CN6084
TP8001
CN8101
CN8102
CN8103
CN8201
CN8202
CN8203
CN8204
CN8205
CN8301
CN8302
CN8303
CN8003
XVS
BGS
FAW
S.IN
S.OUT
S.CLK
BUSY
RESET
CH SCAN E
CH SCAN H
TO TM-1 CN7102

VHR-D700EX
VHR-D700G

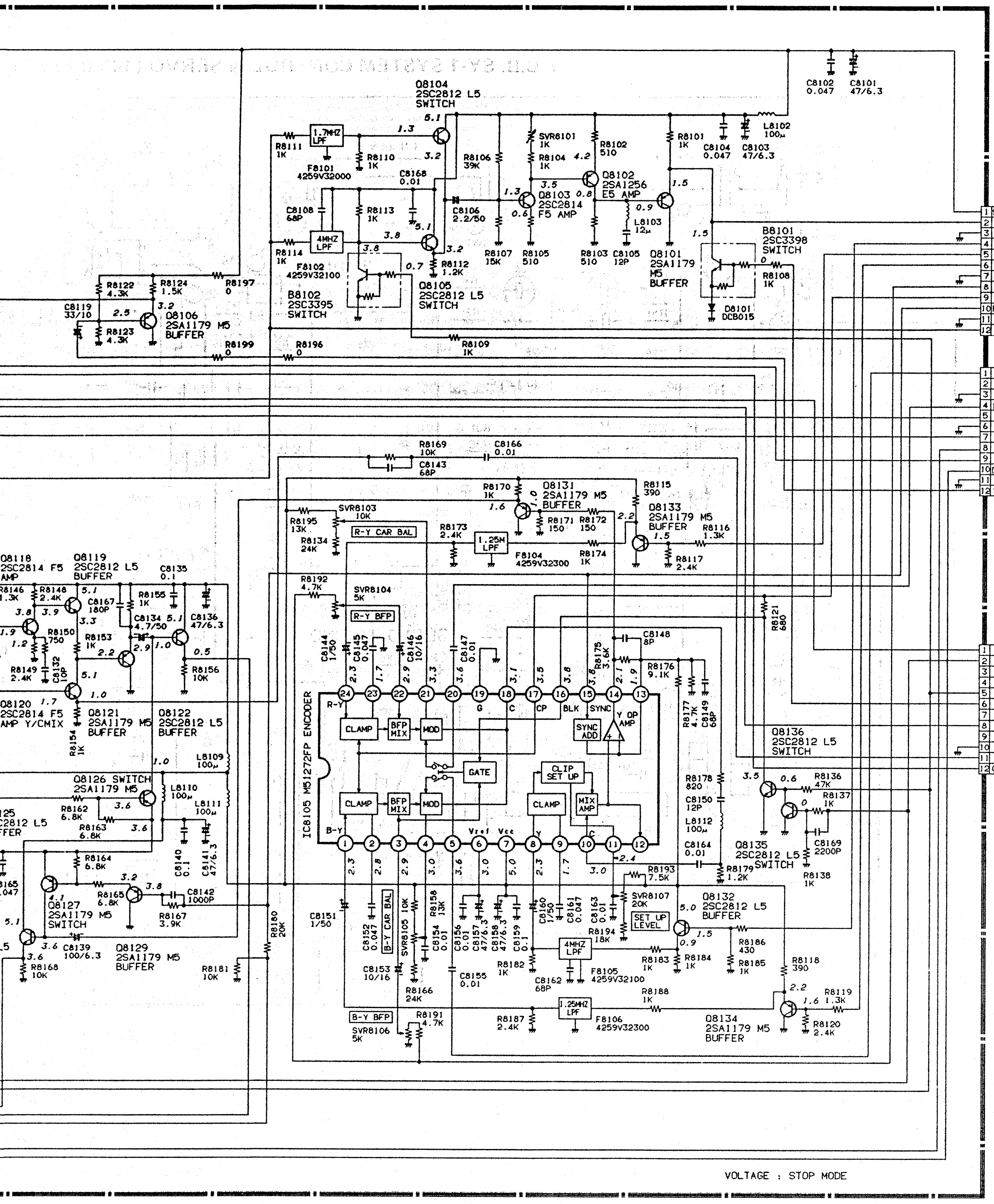

4233V63651
DM-1 Digital Block LOC.NO8001~
CN1
CN2
CN3
CN4
CN8103
CN8102
CN8101
CN8203
CN8205
CN8202
CN8201
CN8204
CN8303
CN8302
CN8301
L1
L2
L3
F1
F2
F3
C1
C2
C3
C5
C6
C7
C9
C10
C11
J3
J4
J5
J6
R1
TP1
GND
DM-2
DM-3
DM-4
DM-5

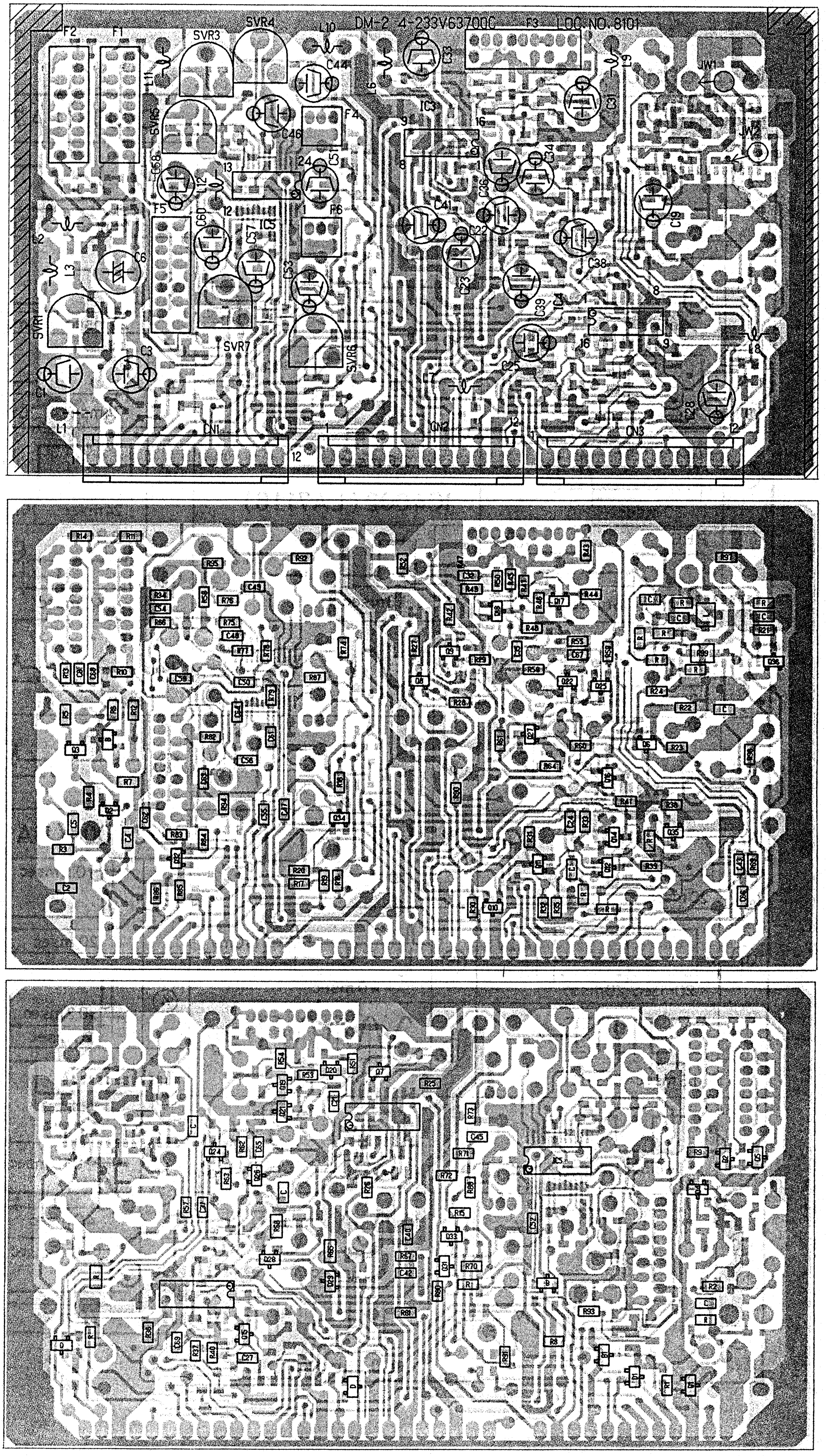
P.C.B. DM-2 REC/PB VIDE


Q8107 2SC2812 L5 BUFFER
Q8108 2SA1179 M5 BUFFER
Q8109 2SC2812 L5 BUFFER
IC8103 MN74HC4053S
IC8104 MN74HC4053S
Q8110 2SA1179 M5 BUFFER
Q8111 2SA1256 E5 AMP
Q8112 2SC2814 F5 AMP
Q8114 2SC2812 L5 BUFFER
Q8115 BUFFER 2SC2812 L5
Q8116 2SC2812 L5 BUFFER
Q8117 2SA1256 E5 AMP
Q8118 2SC2814 AMP
Q8120 2SC2814 AMP Y/C
Q8124 2SA1179 M5 BUFFER
Q8125 2SC2812 L5 BUFFER
Q8128 2SC2812 L5 BUFFER
F8103 4259V32200 4MHz LPF
L8106 100μ
L8107 100μ
L8108 100μ

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

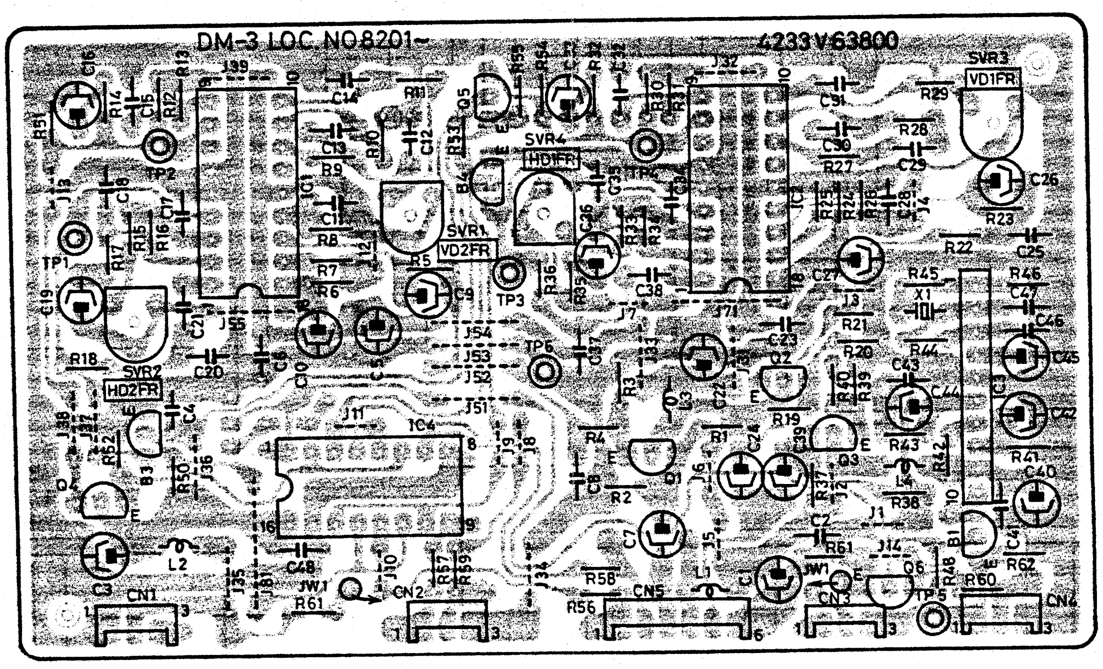
VIDEO SIGNAL PROCESS CIRCUIT & P.C.B. (143-0-233V-63700)

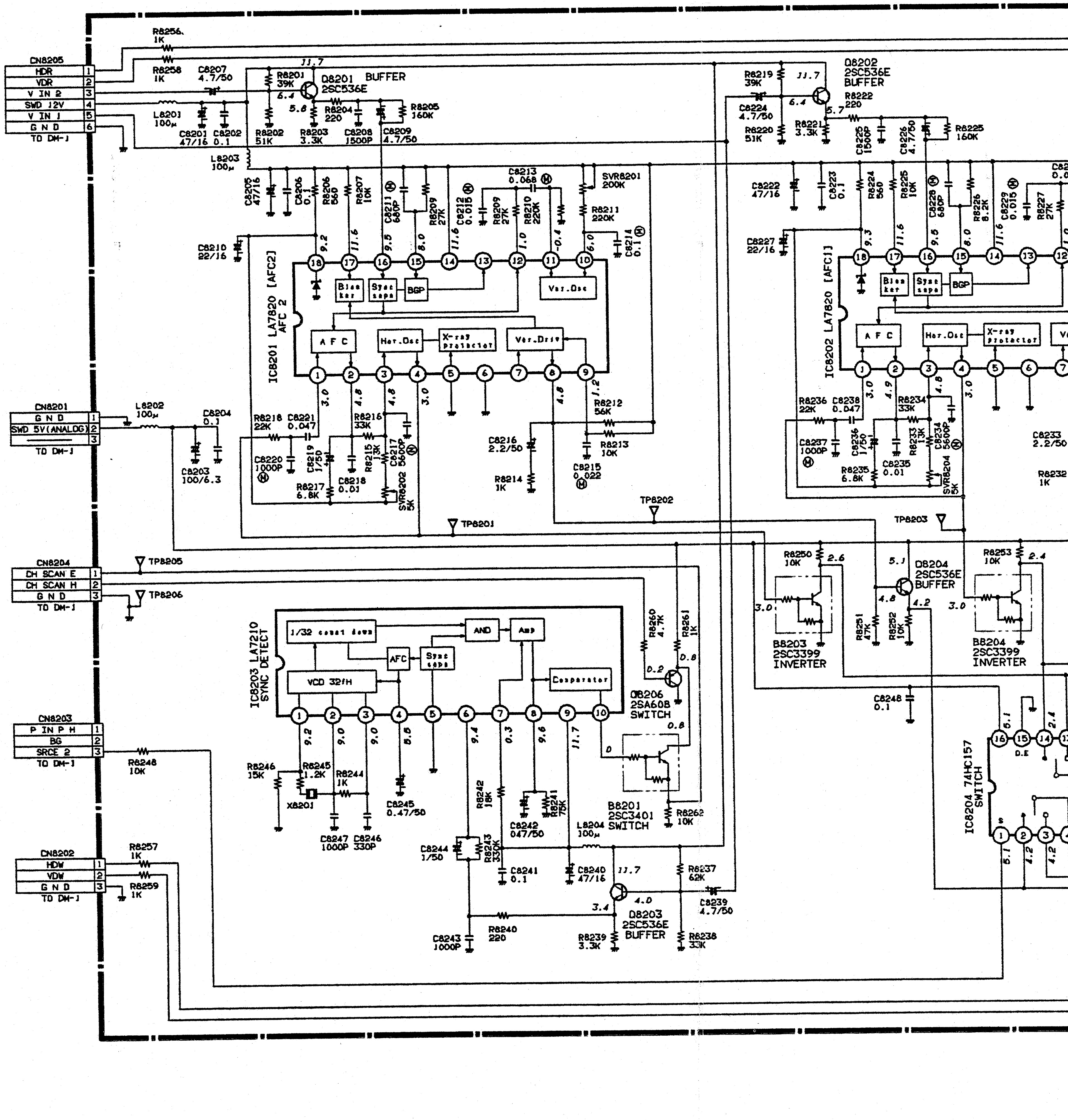

Q8104 2SC2812 L5 SWITCH
Q8105 2SC2812 L5 SWITCH
Q8106 2SA1179 M5 BUFFER
Q8103 2SC2814 F5 AMP
Q8102 2SA1256 E5 AMP
Q8101 2SA1179 M5 BUFFER
B8101 2SC3398 SWITCH
B8102 2SC3395 SWITCH
D8101 DCB015
F8101 4259V32000
F8102 4259V32100
1.7MHZ LPF
4MHZ LPF
CN8101
1 SWD 5V(ANALOG)
2 Y OUT
3 G N D
4 Y IN
5 R - Y IN
6 B - Y IN
7 G N D
8 B F P
9 B L K
10 READ COMP SYNC
11 G N D
12 (C) V. OUT
TO DM-1
CN8102
1 FSC (180°)
2 —
3 G N D
4 FSC (90°/270°)
5 (P) V. OUT
6 G N D
7 V. OUT 2
8 SWD 12V
9 V. OUT 1
10 DIGITAL V. OUT
11 G N D
12 THROUGH V. IN
TO DM-1
CN8103
1 AGC V. IN
2 S W M M
3 —
4 (S W M)
5 P IN P H
6 B G
7 —
8 SRCE 2
9 (SRCE 1)
10 G N D
11 ACC. C. IN
12 COMP SYNC (P)
TO DM-1
IC8105 M51272FP ENCODER
CLAMP
BFP MIX
MOD
GATE
SYNC ADD
Y OP AMP
CLIP SET UP
MIX AMP
R-Y CAR BAL
R-Y BFP
B-Y CAR BAL
B-Y BFP
SET UP LEVEL
1.25H LPF
1.25MHZ LPF
4MHZ LPF
F8104 4259V32300
F8105 4259V32100
F8106 4259V32300
Q8131 2SA1179 M5 BUFFER
Q8133 2SA1179 M5 BUFFER
Q8136 2SC2812 L5 SWITCH
Q8135 2SC2812 L5 SWITCH
Q8132 2SC2812 L5 BUFFER
Q8134 2SA1179 M5 BUFFER
Q8118 2SC2814 F5 AMP
Q8119 2SC2812 L5 BUFFER
Q8120 2SC2814 F5 AMP Y/CMIX
Q8121 2SA1179 M5 BUFFER
Q8122 2SC2812 L5 BUFFER
Q8126 SWITCH 2SA1179 M5
Q8127 2SA1179 M5 SWITCH
Q8129 2SA1179 M5 BUFFER
VOLTAGE : STOP MODE


DM-2 4-233V63700C
LOC NO 8101
SVR3
SVR4
SVR5
SVR6
SVR7
SVR1
CN1
CN2
CN3

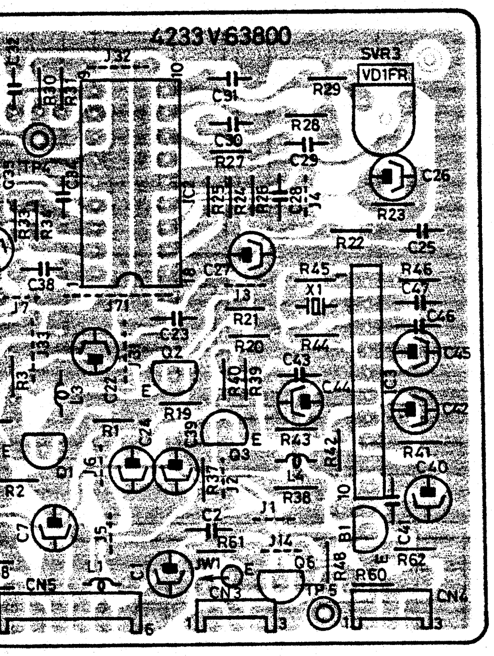
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

P.C.B. DM-3 SYNC, SEPARATOR CIRCUIT & P.C.B. (143-0-233V-63800)


DM-3 LOC NO8201~
4233V63800
SVR1 VD2FR
SVR2 HD2FR
SVR3 VD1FR
SVR4 HD1FR
IC1
IC4
CN1
CN2
CN3
CN4
CN5
TP1
TP2
TP3
TP4
TP5
X1
JW1

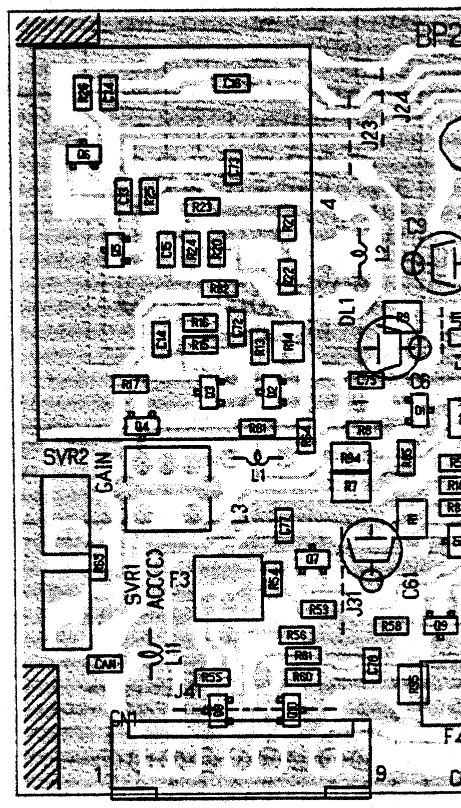

CN8205
HDR
VDR
V IN 2
SWD 12V
V IN 1
GND
TO DM-1
R8256 1K
R8258 1K
C8207 4.7/50
L8201 100μ
C8201 47/16
C8202 0.1
R8201 39K
Q8201 BUFFER 2SC536E
R8204 220
R8205 160K
R8202 51K
R8203 3.3K
C8208 1500P
C8209 4.7/50
L8203 100μ
C8205 47/16
C8206 0.1
R8206 560
R8207 10K
C8211 680P
R8209 27K
C8212 0.015
C8213 0.068
R8210 220K
SVR8201 200K
R8211 220K
C8214 0.1
C8210 22/16
IC8201 LA7820 [AFC2] AFC 2
Blan ker
Sync sepa
BGP
Ver.Osc
AFC
Hor.Osc
X-ray protector
Ver.Driv
CN8201
GND
SWD 5V(ANALOG)
TO DM-1
L8202 100μ
C8204 0.1
C8203 100/6.3
R8218 22K
C8221 0.047
R8216 33K
C8220 1000P
C8219 1/50
R8215 13K
C8217 5600P
C8218 0.01
R8217 6.8K
SVR8202 5K
R8212 56K
R8213 10K
C8216 2.2/50
C8215 0.022
R8214 1K
TP8201
TP8202
Q8202 2SC536E BUFFER
R8219 39K
R8222 220
C8224 4.7/50
R8220 51K
R8221 3.3K
C8225 1500P
C8226 4.7/50
R8225 160K
C8222 47/16
C8223 0.1
R8224 560
R8226 10K
C8228 680P
R8226 8.2K
C8229 0.015
R8227 27K
C8227 22/16
IC8202 LA7820 [AFC1]
R8236 22K
C8238 0.047
R8234 33K
C8237 1000P
C8236 1/50
R8233 13K
C8234 5600P
C8235 0.01
R8235 6.8K
SVR8204 5K
C8233 2.2/50
R8232 1K
TP8203
CN8204
CH SCAN E
CH SCAN H
TP8205
TP8206
IC8203 LA7210 SYNC DETECT
1/32 count down
AND
Amp
AFC
Sync sepa
VCO 32fH
Comparator
R8246 15K
R8245 1.2K
R8244 1K
X8201
C8245 0.47/50
C8247 1000P
C8246 330P
R8242 18K
C8242 047/50
R8241 75K
R8260 4.7K
R8261 1K
Q8206 2SA608 SWITCH
B8201 2SC3401 SWITCH
R8262 10K
L8204 100μ
C8244 1/50
R8243 330K
C8241 0.1
C8240 47/16
R8237 62K
C8239 4.7/50
C8243 1000P
R8240 220
R8239 3.3K
Q8203 2SC536E BUFFER
R8238 33K
CN8203
P IN P H
BG
SRCE 2
R8248 10K
CN8202
HDW
VDW
R8257 1K
R8259 1K
R8250 10K
B8203 2SC3399 INVERTER
R8251 47K
R8252 10K
Q8204 2SC536E BUFFER
R8253 10K
B8204 2SC3399 INVERTER
C8248 0.1
IC8204 74HC157 SWITCH

UIT & P.C.B. (143-0-233V-63800)

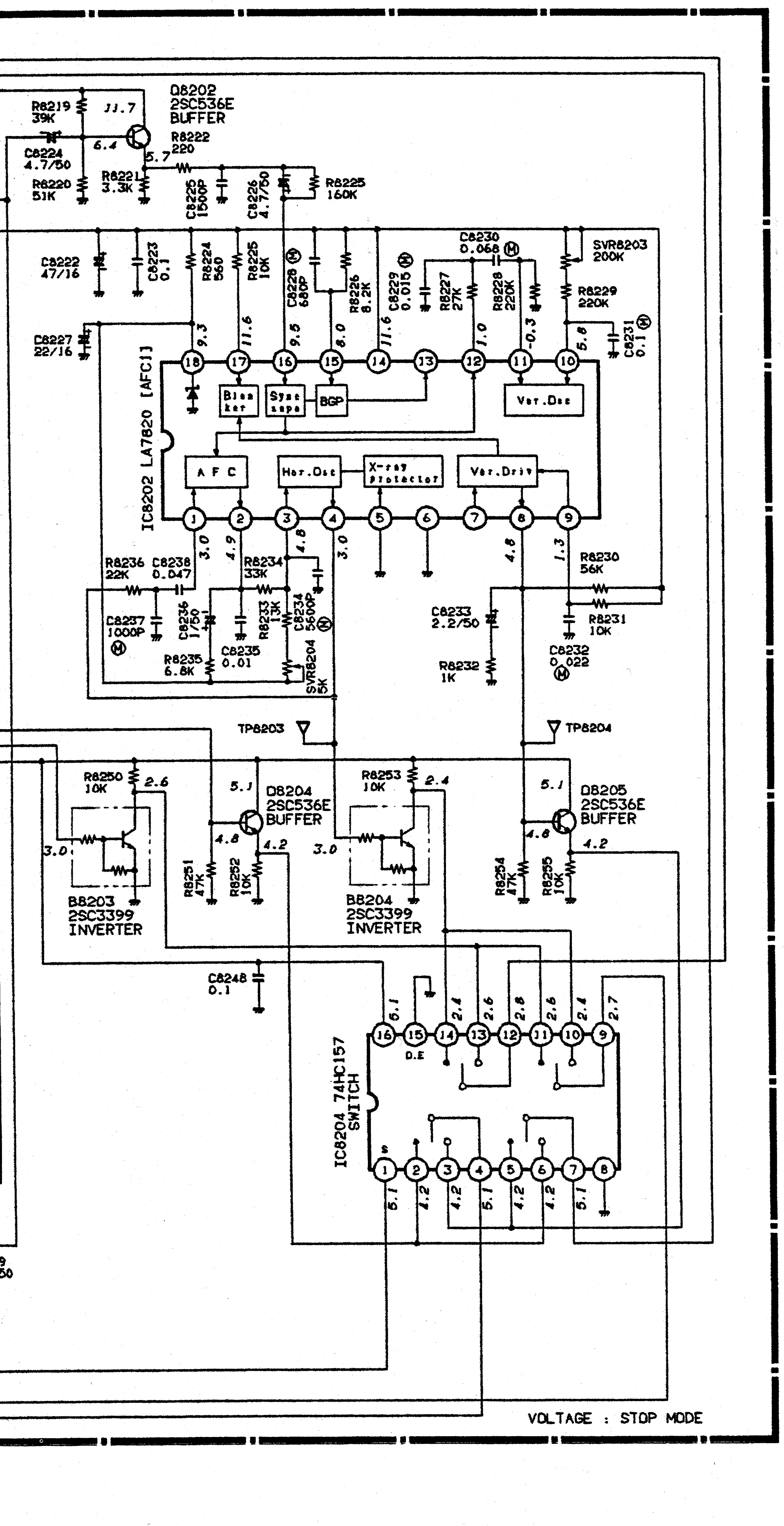


4233V63800
SVR3
VD1FR
J32
R29
R28
R27
C29
C26
R23
R22
R45
R46
X1
R21
R20
R44
C43
C45
C46
R19
Q3
R43
R41
C40
R38
R42
J14
J1
Q6
R61
R60
R62
R48
CN5
CN3
CN4
TP5
C38
C7
Q1
C24
C39

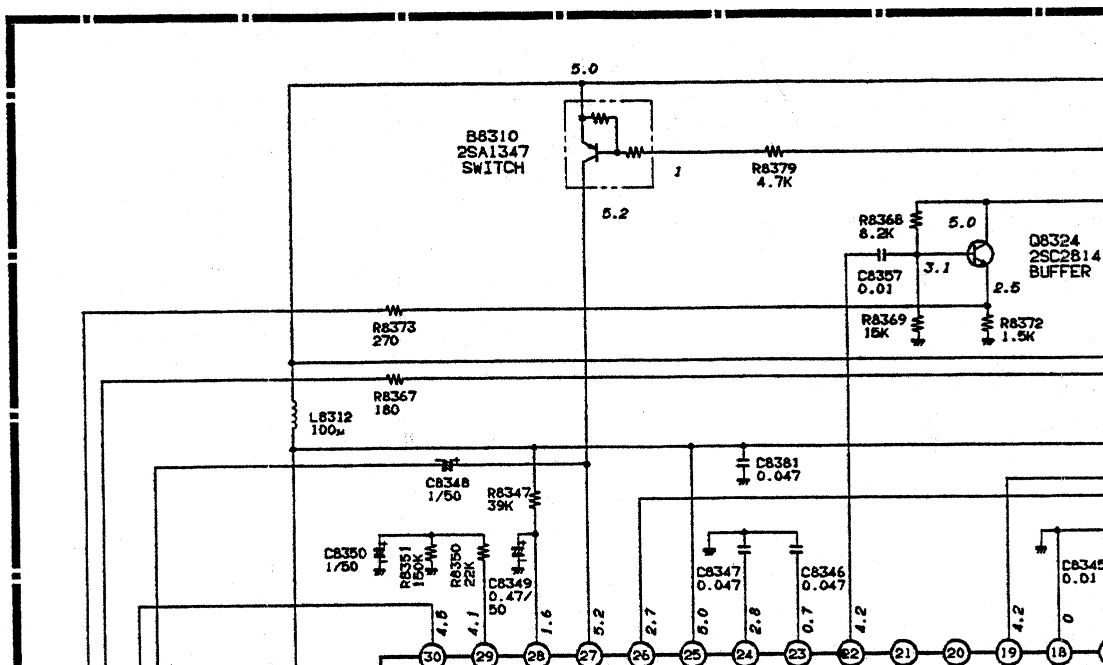
P.C.B. DM-4 Y/C SIG



BP2
SVR2
GAIN
SVR1
ACC(C)
F3
L1
L3
L11
J41
J37
J23
J24
DL1
C6
C61
CN1
1
9
F4



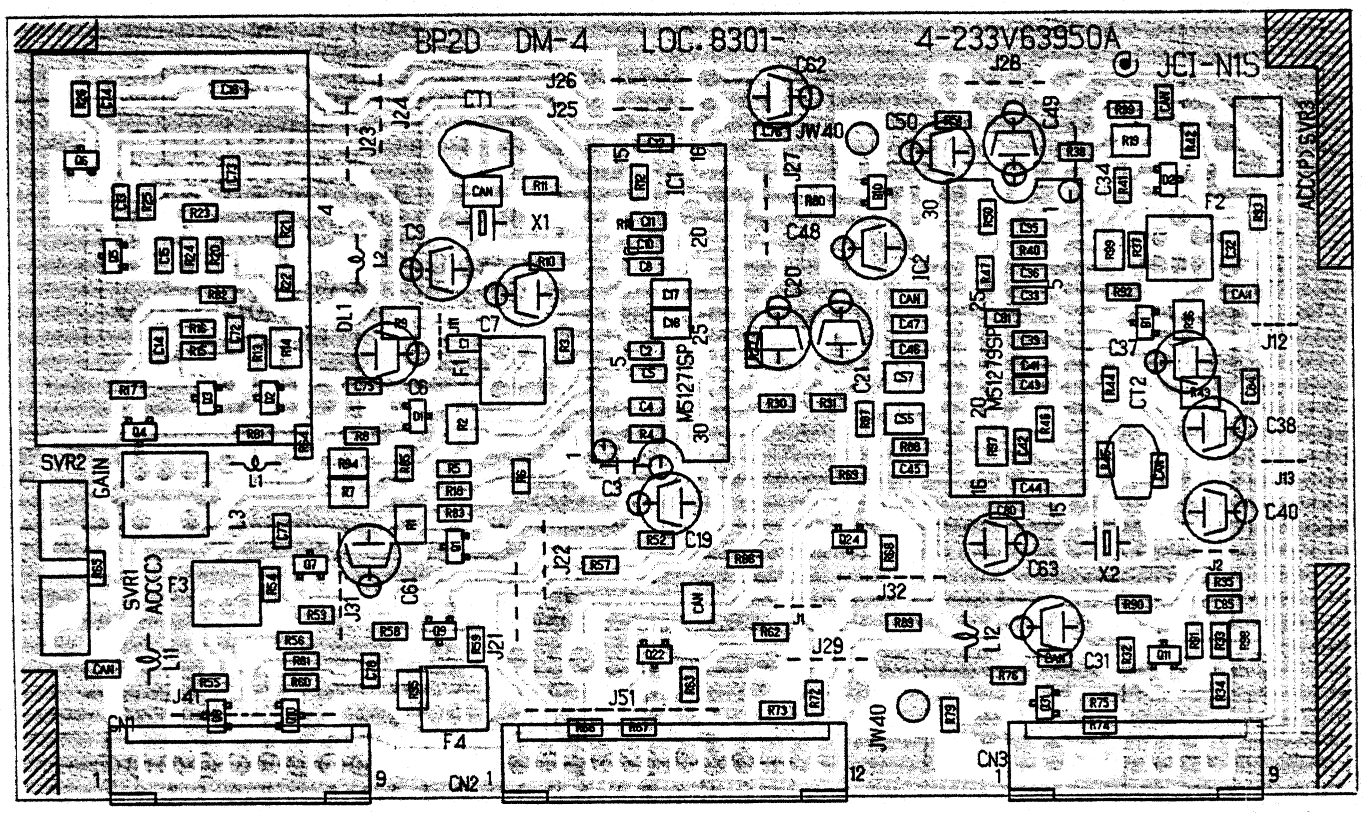
Q8202
2SC536E
BUFFER
R8219 39K
R8222 220
C8224 4.7/50
R8221 3.3K
R8220 51K
C8225 1500P
C8226 4.7/50
SVR
R8225 160K
C8222 47/16
C8223 0.1
R8224 560
R8225 10K
C8228 680P
R8226 8.2K
C8230 0.068
C8229 0.015
R8227 27K
R8228 220K
SVR8203 200K
R8229 220K
C8231 0.1
C8227 22/16
IC8202 LA7820 [AFC]
Blan ker
Sync sepa
BGP
Ver.Osc
A F C
Hor.Osc
X-ray protector
Ver.Driv
R8236 22K
C8238 0.047
R8234 33K
C8237 1000P
C8236 1/50
R8233 13K
C8234 5600P
C8235 0.01
R8235 6.8K
SVR8204 5K
R8230 56K
C8233 2.2/50
R8231 10K
R8232 1K
C8232 0.022
TP8203
TP8204
R8250 10K
Q8204
2SC536E
BUFFER
R8253 10K
Q8205
2SC536E
BUFFER
B8203
2SC3399
INVERTER
B8204
2SC3399
INVERTER
R8251 47K
R8252 10K
R8254 47K
R8255 10K
C8248 0.1
IC8204 74HC157
SWITCH
D.E
VOLTAGE : STOP MODE

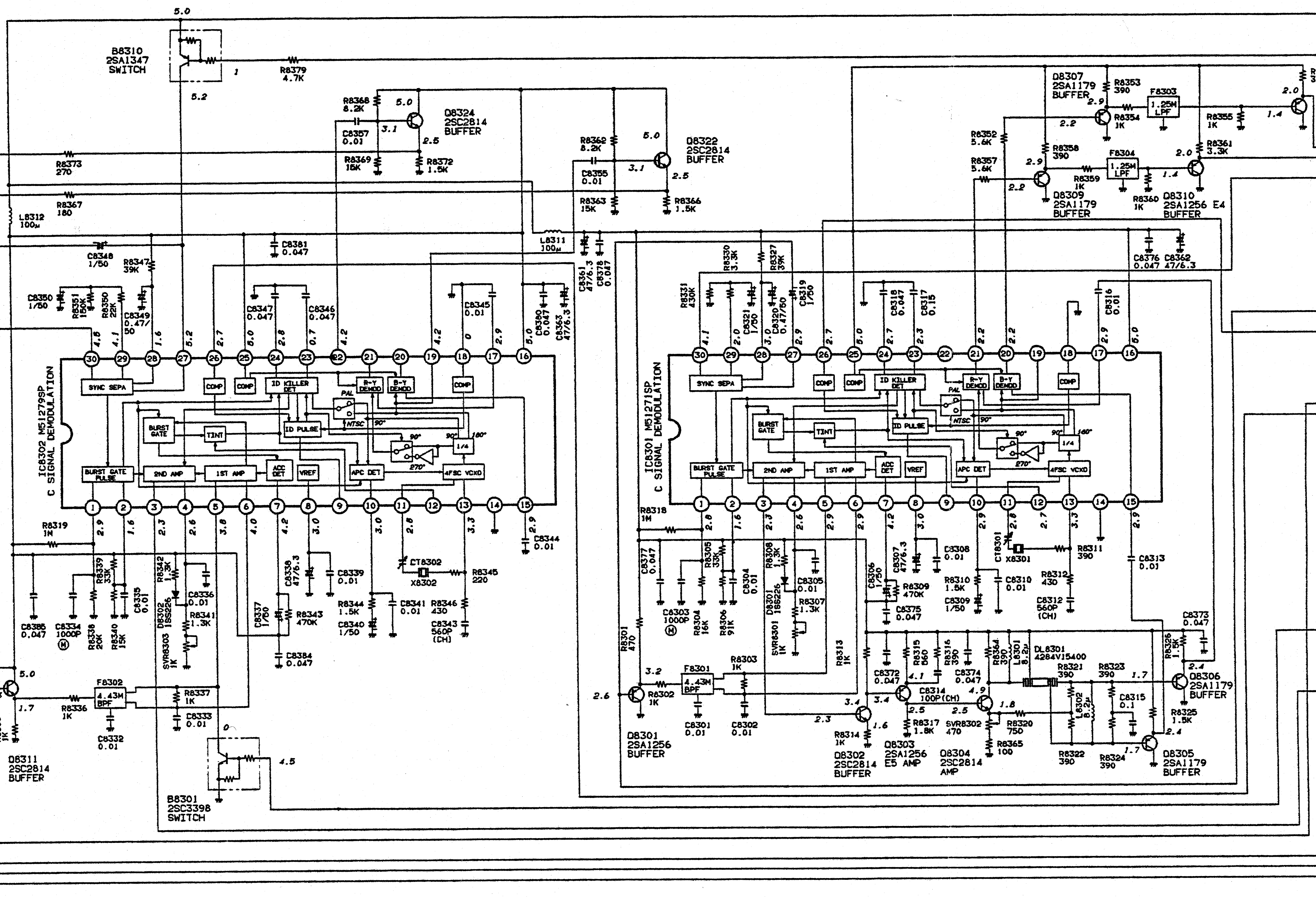


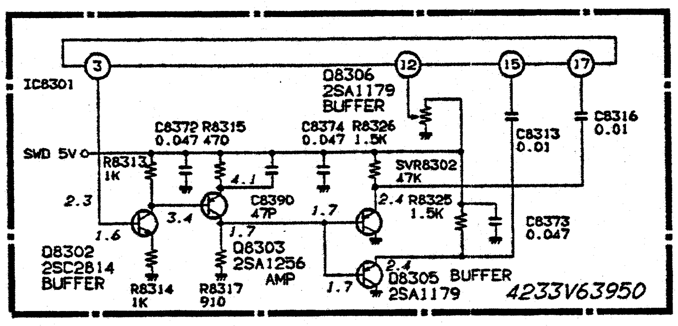
B8310
2SA1347
SWITCH
R8379 4.7K
R8368 8.2K
Q8324
2SC2814
BUFFER
C8357 0.01
R8369 15K
R8372 1.5K
R8373 270
R8367 180
L8312 100μ
C8348 1/50
R8347 39K
C8381 0.047
C8350 1/50
R8351 150K
R8350 22K
C8349 0.47/50
C8347 0.047
C8346 0.047
C8345 0.01
IC8302 M51279SP
C SIGNAL DEMODULATION
SYNC SEPA
COMP
ID KILLER DET
R-Y DEMOD
B-Y DEMOD
PAL
NTSC
BURST GATE
TINT
ID PULSE
BURST GATE PULSE
2ND AMP
1ST AMP
ACC DET
VREF
APC DET
1/4
4fSC VCXO
R8319 1M
R8339 33K
R8342 1.3K
C8336 0.01
R8341 1.3K
C8338 47/6.3
C8339 0.01
CT8302
X8302
C8385 0.047
C8334 1000P
R8338 20K
R8340 15K
C8335 0.01
D8302 1SS226
SVR8303 1K
C8337 1/50
R8343 470K
R8344 1.5K
C8340 1/50
C8341 0.01
R8346 430
C8343 560P (CH)
C8384 0.047
R8333 22K
C8331 4.7/25
F8302
4.43M BPF
R8337 1K
C8333 0.01
R8336 1K
C8332 0.01
R8334 22K
R8335 1K
Q8311
2SC2814
BUFFER
B8301
2SC3398
SWITCH

8 9 10 11 12 13 14 15 16 17 18 19 20

P.C.B. DM-4 Y/C SIGNAL PROCESS CIRCUIT & P.C.B. (143-0-233V-63950)

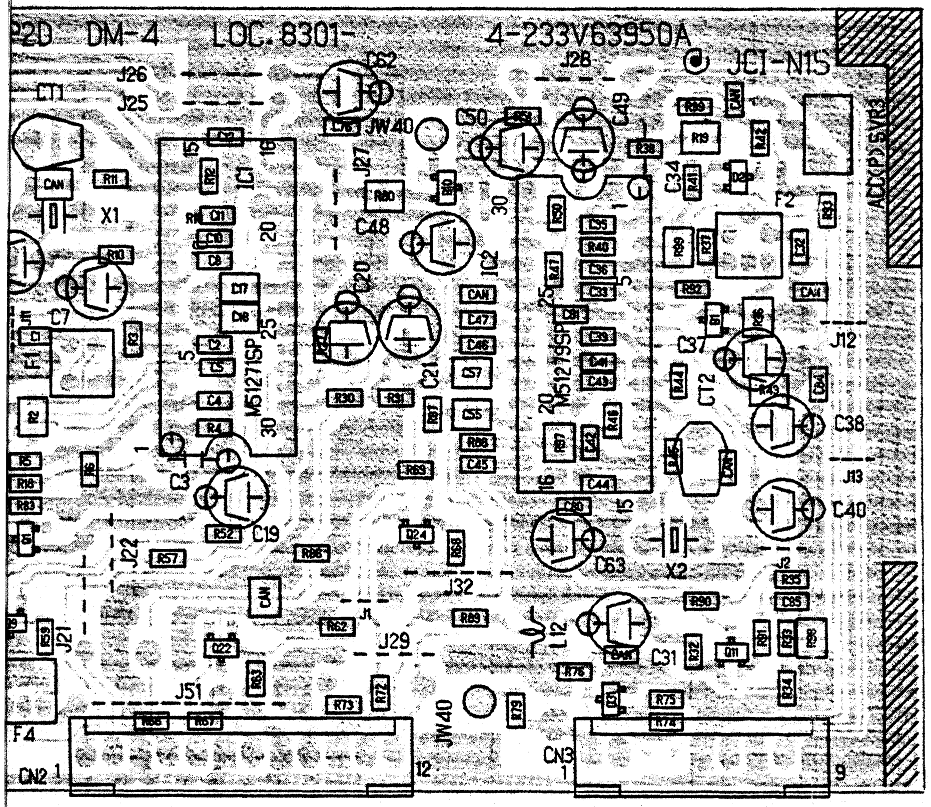

BP2D DM-4 LOC.8301-
4-233V63950A
JCI-N15
SVR2 GAIN
SVR1 ACC(C)
ACC(P) SVR3
M5127ISP
M5I279SP
X1
X2
CN1
CN2
CN3
F3
F4
JW40

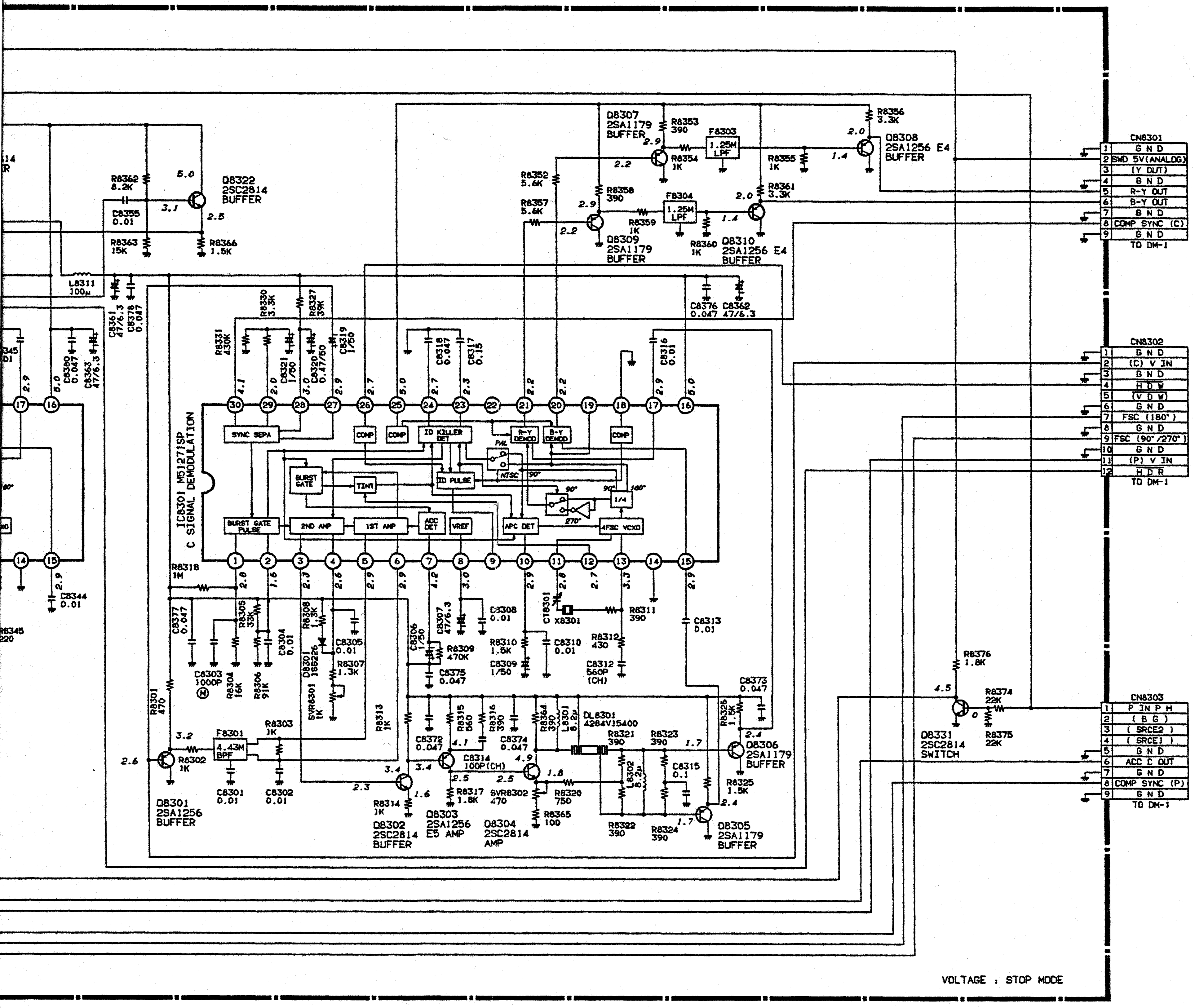

B8310 2SA1347 SWITCH
R8379 4.7K
Q8324 2SC2814 BUFFER
Q8322 2SC2814 BUFFER
Q8307 2SA1179 BUFFER
Q8309 2SA1179 BUFFER
Q8310 2SA1256 E4 BUFFER
F8303 1.25M LPF
F8304 1.25M LPF
L8312 100µ
L8311 100µ
IC8302 M51279SP C SIGNAL DEMODULATION
IC8301 M51271SP C SIGNAL DEMODULATION
SYNC SEPA
BURST GATE
TINT
ID KILLER DET
ID PULSE
R-Y DEMOD
B-Y DEMOD
COMP
BURST GATE PULSE
2ND AMP
1ST AMP
ACC DET
VREF
APC DET
4FSC VCXO
1/4
PAL
NTSC
90°
180°
270°
X8302
X8301
CT8302
CT8301
F8302 4.43M BPF
F8301 4.43M BPF
Q8311 2SC2814 BUFFER
B8301 2SC3398 SWITCH
Q8301 2SA1256 BUFFER
Q8302 2SC2814 BUFFER
Q8303 2SA1256 E5 AMP
Q8304 2SC2814 AMP
Q8305 2SA1179 BUFFER
Q8306 2SA1179 BUFFER
DL8301 4284V15400
SVR8301 1K
SVR8302 470
SVR8303 1K
D8301 1SS226
D8302 1SS226


IC8301
Q8306 2SA1179 BUFFER
C8372 0.047
R8315 470
C8374 0.047
R8326 1.5K
C8313 0.01
C8316 0.01
SWD 5V
R8313 1K
C8390 47P
SVR8302 47K
R8325 1.5K
C8373 0.047
Q8302 2SC2814 BUFFER
Q8303 2SA1256 AMP
Q8305 2SA1179 BUFFER
R8314 1K
R8317 910
4233V63950

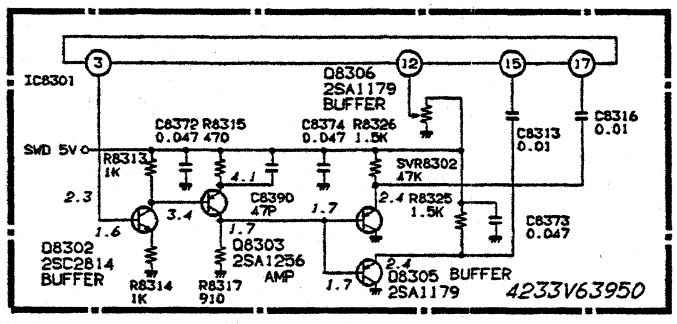
16 17 18 19 20 21 22 23 24 25 26 27

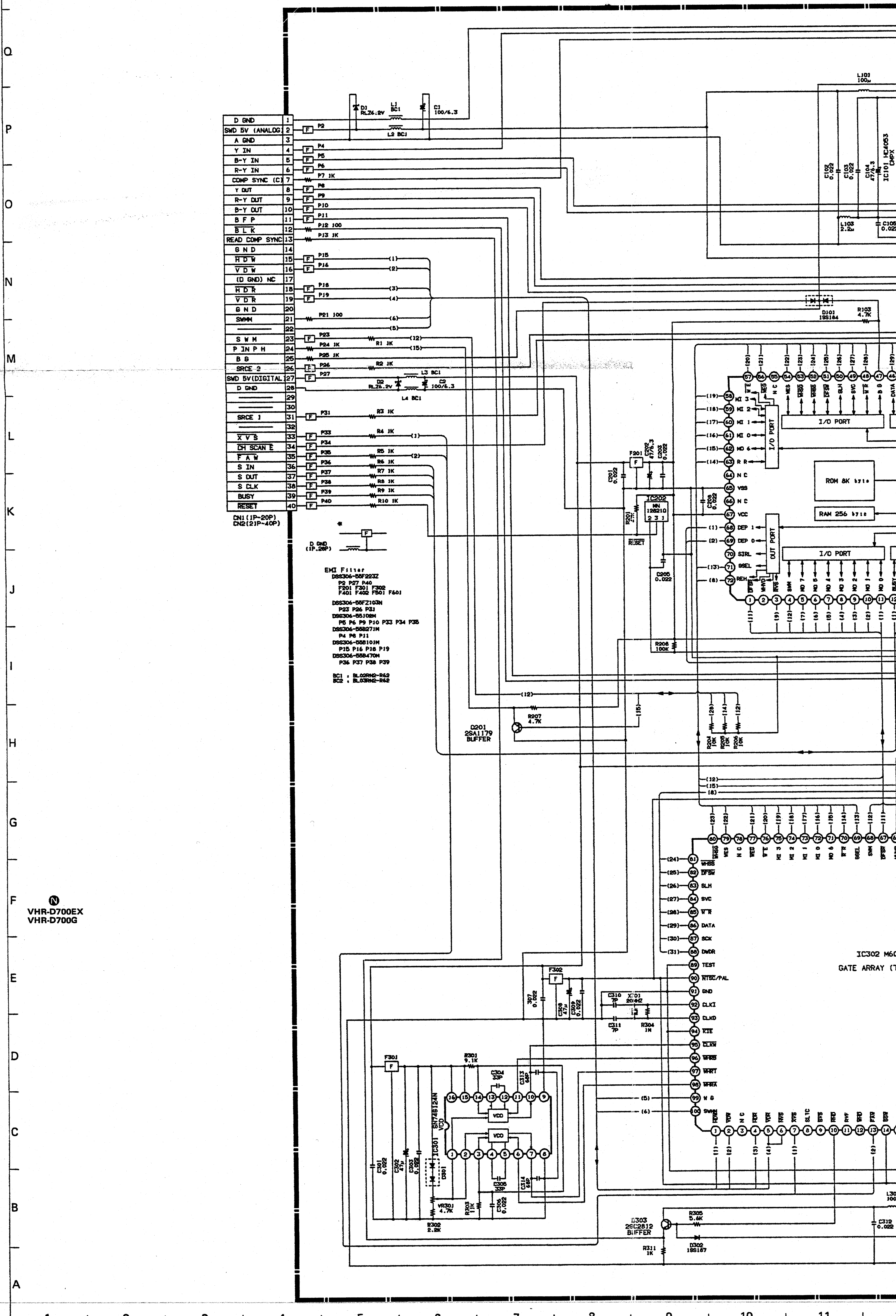
IGNAL PROCESS CIRCUIT & P.C.B. (143-0-233V-63950)


DM-4
LOC. 8301
4-233V63950A
JCI-N15
M51271SP
M51279SP
CN2
CN3
ADJ(P) 5V R3

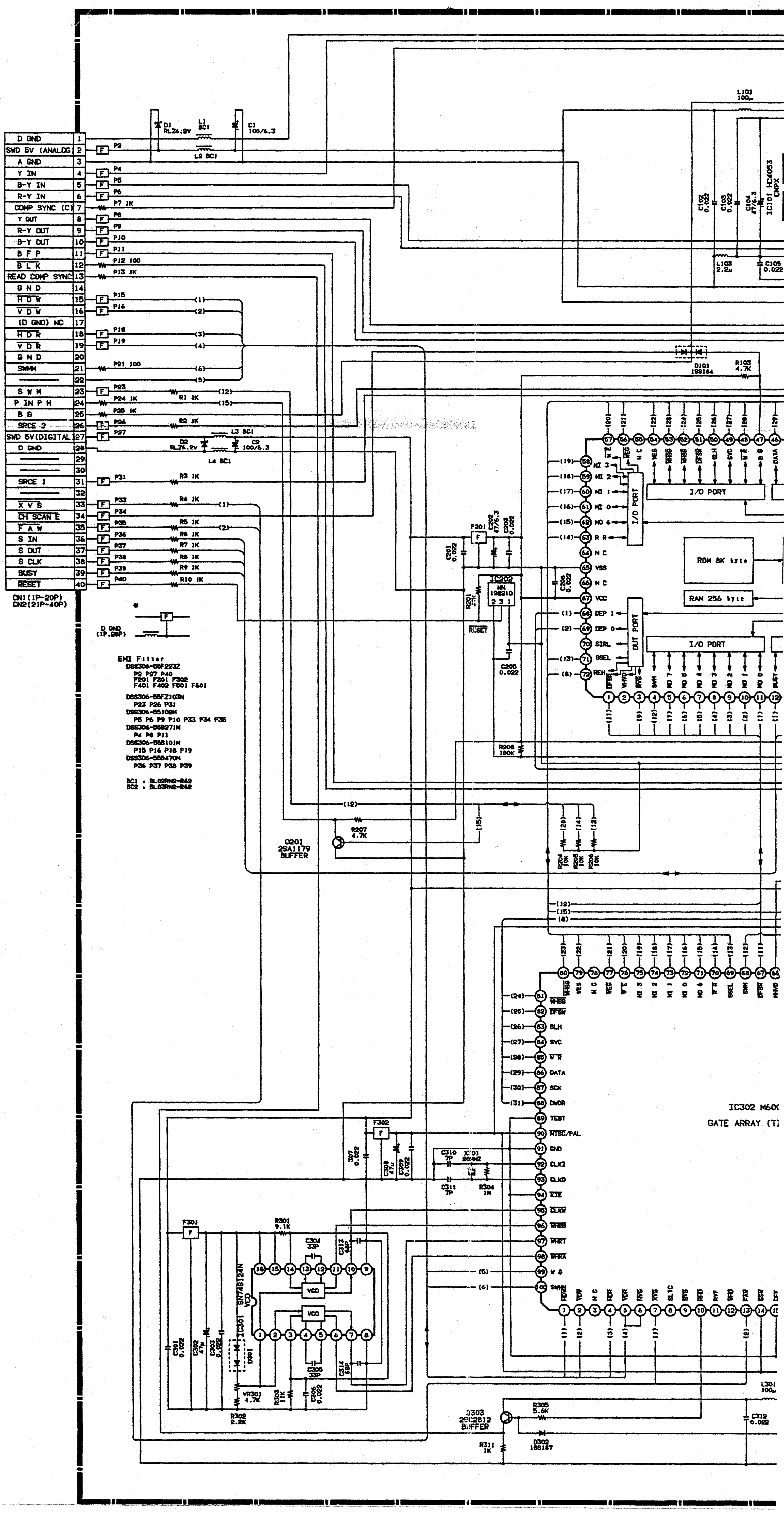

IC8301 M51271SP C SIGNAL DEMODULATION
Q8307 2SA1179 BUFFER
Q8308 2SA1256 E4 BUFFER
Q8309 2SA1179 BUFFER
Q8310 2SA1256 E4 BUFFER
Q8322 2SC2814 BUFFER
Q8301 2SA1256 BUFFER
Q8302 2SC2814 BUFFER
Q8303 2SA1256 E5 AMP
Q8304 2SC2814 AMP
Q8305 2SA1179 BUFFER
Q8306 2SA1179 BUFFER
Q8331 2SC2814 SWITCH
F8303 1.25M LPF
F8304 1.25M LPF
F8301 4.43M BPF
DL8301 4284V15400
X8301
CN8301
1 GND
2 SWD 5V(ANALOG)
3 (Y OUT)
4 GND
5 R-Y OUT
6 B-Y OUT
7 GND
8 COMP SYNC (C)
9 GND
TO DM-1
CN8302
1 GND
2 (C) V IN
3 GND
4 HDW
5 (VDW)
6 GND
7 FSC (180°)
8 GND
9 FSC (90°/270°)
10 GND
11 (P) V IN
12 HDR
TO DM-1
CN8303
1 P IN P H
2 (BG)
3 (SRCE2)
4 (SRCE1)
5 GND
6 ACC C OUT
7 GND
8 COMP SYNC (P)
9 GND
TO DM-1
SYNC SEPA
COMP
ID KILLER DET
R-Y DEMOD
B-Y DEMOD
BURST GATE
TINT
ID PULSE
BURST GATE PULSE
2ND AMP
1ST AMP
ACC DET
VREF
APC DET
4FSC VCXO
1/4
VOLTAGE : STOP MODE

Ⓜ
VHR-D700EX
VHR-D700G


IC8301
SWD 5V
Q8306 2SA1179 BUFFER
Q8302 2SC2814 BUFFER
Q8303 2SA1256 AMP
Q8305 BUFFER 2SA1179
SVR8302 47K
4233V63950


Q
P
O
N
M
L
K
J
I
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
D GND
SWD 5V (ANALOG)
A GND
Y IN
B-Y IN
R-Y IN
COMP SYNC (C)
Y OUT
R-Y OUT
B-Y OUT
B F P
B L K
READ COMP SYNC
G N D
H D W
V D W
(D GND) NC
H D R
V D R
G N D
SWMM
S W M
P IN P H
B G
SRCE 2
SWD 5V (DIGITAL)
D GND
SRCE 1
X V S
CH SCAN E
F A W
S IN
S OUT
S CLK
BUSY
RESET
CN1 (1P-20P)
CN2 (21P-40P)
D1 RLZ6.2V
L1 BC1
L2 BC1
C1 100/6.3
D2 RLZ6.2V
L3 BC1
L4 BC1
C2 100/6.3
L101 100μ
L103 2.2μ
C102 0.022
C103 0.022
C104 47/6.3
C105 0.022
IC101 HC4053 CMPX
D101 1SS184
R103 4.7K
I/O PORT
ROM 8K byte
RAM 256 byte
OUT PORT
F201
C201 0.022
C202 47/6.3
C203 0.022
C206 0.022
C205 0.022
IC202 MN 1282I0
R201 47K
RESET
R208 100K
R204 10K
R205 10K
R206 10K
R207 4.7K
Q201 2SA1179 BUFFER
*
D GND (1P.28P)
EMI Filter
DSS306-55F223Z
P2 P27 P40
F201 F301 F302
F401 F402 F501 F601
DSS306-55FZ103N
P23 P26 P31
DSS306-55J02M
P5 P6 P9 P10 P33 P34 P35
DSS306-55B271M
P4 P8 P11
DSS306-55B101M
P15 P16 P18 P19
DSS306-55B470M
P36 P37 P38 P39
BC1 : BL02RN2-R62
BC2 : BL03RN2-R62
IC302 M60
GATE ARRAY (T
WHSS
DFSW
SLH
SVC
W R
DATA
SCK
DWDR
TEST
NTSC/PAL
GND
CLKI
CLKO
RIE
CLKW
WHRB
WHRT
WHRA
W G
SWMM
F302
C307 0.022
C308 47μ
C309 0.022
C310 7P
X301 20MHz
C311 7P
R304 1M
F301
R301 9.1K
C304 33P
C313 68P
VCO
IC301 SN74S124N VCO
C301 0.022
C302 47μ
C303 0.022
D301
VR301 4.7K
R302 2.2K
R303 11K
C306 0.022
C305 33P
C314 68P
Q303 2SC2812 BUFFER
R305 5.6K
R311 1K
D302 1SS187
L30 100
C312 0.022

N
VHR-D700EX
VHR-D700G


D GND 1
SWD 5V (ANALOG) 2
A GND 3
Y IN 4
B-Y IN 5
R-Y IN 6
COMP SYNC (C) 7
Y OUT 8
R-Y OUT 9
B-Y OUT 10
B F P 11
B L K 12
READ COMP SYNC 13
G N D 14
H D W 15
V D W 16
(D GND) NC 17
H D R 18
V D R 19
G N D 20
SWMM 21
22
S W M 23
P IN P H 24
B G 25
SRCE 2 26
SWD 5V (DIGITAL) 27
D GND 28
29
30
SRCE 1 31
32
X V S 33
CH SCAN E 34
F A W 35
S IN 36
S OUT 37
S CLK 38
BUSY 39
RESET 40
CN1 (1P~20P)
CN2 (21P~40P)
D1 RLZ6.2V
L1 BC1
L2 BC1
C1 100/6.3
D2 RLZ6.2V
L3 BC1
L4 BC1
C2 100/6.3
L101 100μ
IC101 HC4053 CMPX
C102 0.022
C103 0.022
C104 47/6.3
L103 2.2μ
C105 0.022
D101 1SS184
R103 4.7K
I/O PORT
ROM 8K byte
RAM 256 byte
OUT PORT
IC202 MN1282IO
F201
C201 0.022
C202 47/6.3
C203 0.022
C204 0.022
C205 0.022
R201 47K
RESET
R208 100K
R204 10K
R205 10K
R206 10K
Q201 2SA1179 BUFFER
R207 4.7K
IC302 M60
GATE ARRAY (T
F302
307 0.022
C308 47μ
C309 0.022
C310 7P
X301 20MHZ
C311 7P
R304 1M
F301
R301 9.1K
C304 33P
C313 68P
IC301 SN74S124N VCO
VCO
C301 0.022
C302 47μ
C303 0.022
D301
VR301 4.7K
R302 2.2K
R303 1K
C305 33P
C306 0.022
C314 68P
Q303 2SC2812 BUFFER
R305 5.6K
R311 1K
D302 1SS187
L301 100μ
C312 0.022
D GND (1P.28P)
TEST
NTSC/PAL
GND
CLKI
CLKO
KIE
CLKW
WHRB
WHRT
WHRA
W G
SWMM
WHSS
DFSW
SLH
SVC
W R
DATA
SCK
DWDR

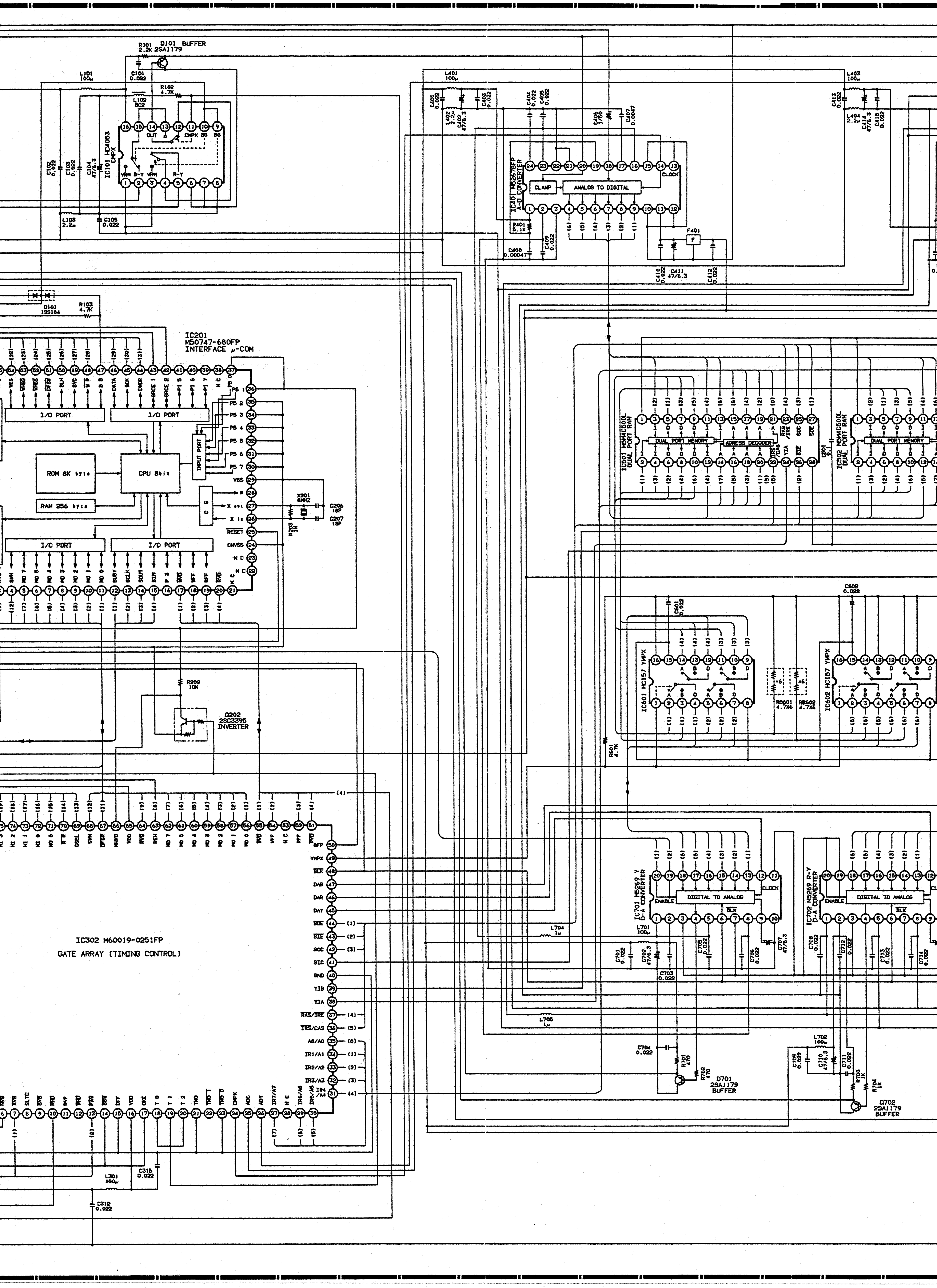
EMI Filter
DSS306-55F223Z
P2 P27 P40
F201 F301 F302
F401 F402 F501 F601

DSS306-55FZ103N
P23 P26 P31
DSS306-55J102M
P5 P6 P9 P10 P33 P34 P35
DSS306-55B271M
P4 P8 P11
DSS306-55B101M
P15 P16 P18 P19
DSS306-55B470M
P36 P37 P38 P39

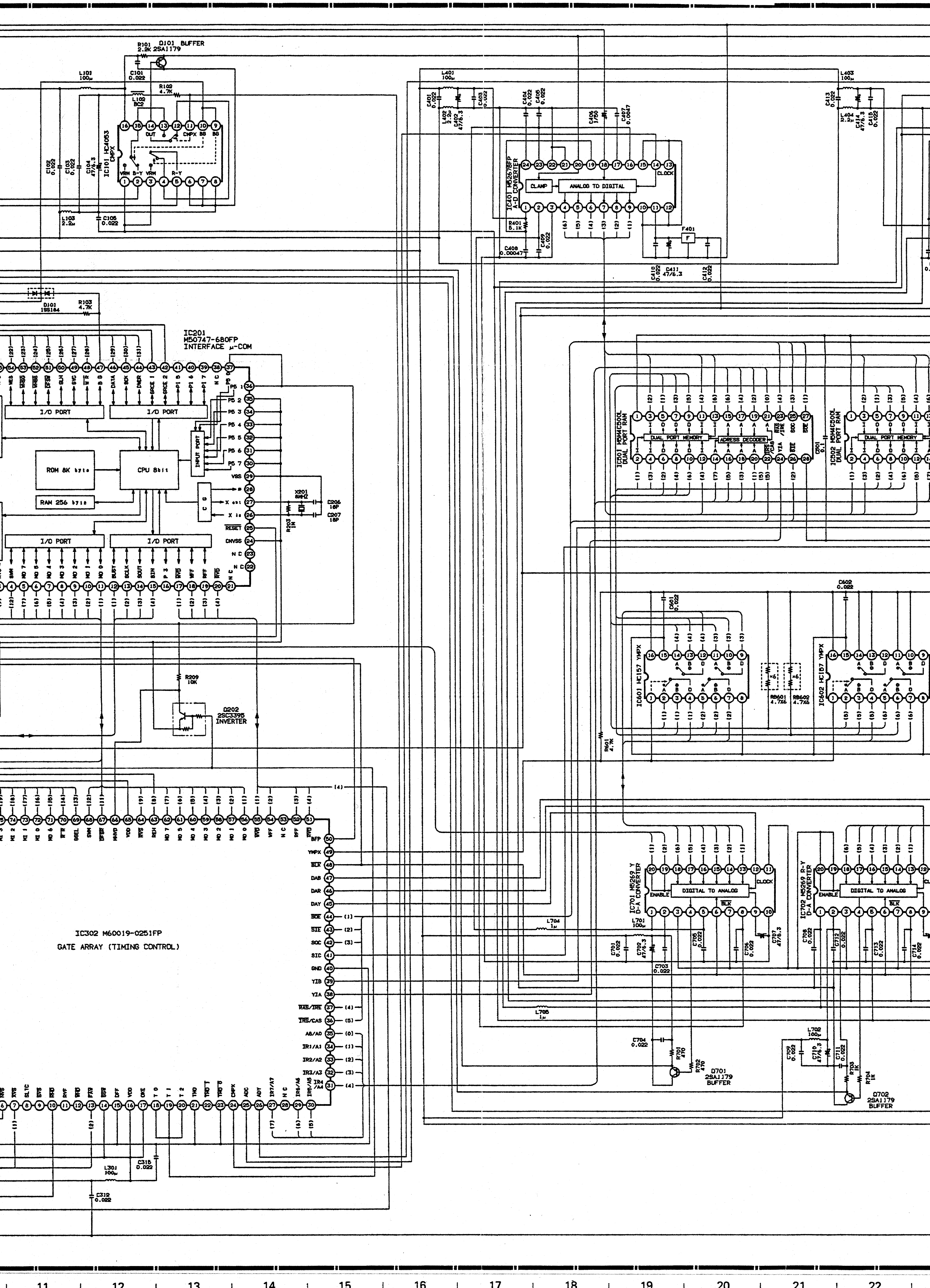
BC1 : BL02RN2-R62
BC2 : BL03RN2-R62

Ⓝ
VHR-D700EX
VHR-D700G

P.C.B. DM-5 DIGITAL VIDEO CIRCUIT (143-0-233V-65800)


Q101 BUFFER 2SA1179
R101 2.2K
C101 0.022
L101 100μ
L102 BC2
R102 4.7K
IC101 HC4053 CMPX
C102 0.022
C103 0.022
C104 47/6.3
L103 2.2μ
C105 0.022
D101 1SS184
R103 4.7K
IC201 M50747-680FP INTERFACE μ-COM
I/O PORT
ROM 8K byte
CPU 8bit
RAM 256 byte
INPUT PORT
C G
X201 8MHZ
C206 18P
C207 18P
R203 1M
R209 10K
Q202 2SC3395 INVERTER
IC302 M60019-0251FP
GATE ARRAY (TIMING CONTROL)
L301 100μ
C315 0.022
C312 0.022
L401 100μ
C401 0.022
L402 2.2μ
C402 47/6.3
C403 0.022
C404 0.022
C405 0.022
C406 1/50
C407 0.0047
IC401 M52678FP A-D CONVERTER
CLAMP
ANALOG TO DIGITAL
CLOCK
R401 5.1K
C408 0.00047
C409 0.022
F401
C410 0.022
C411 47/6.3
C412 0.022
L403 100μ
C413 0.022
L404 2μ
C414 47/6.3
C415 0.022
IC501 MSM4C500L DUAL PORT RAM
DUAL PORT MEMORY
ADRESS DECODER
C501 0.1
IC502 MSM4C500L DUAL PORT RAM
C601 0.022
C602 0.022
IC601 HC157 YMPX
IC602 HC157 YMPX
RB601 4.7X6
RB602 4.7X6
R601 4.7K
IC701 M5269 Y D-A CONVERTER
IC702 M5269 R-Y D-A CONVERTER
ENABLE
DIGITAL TO ANALOG
BLK
L701 100μ
L704 1μ
L705 1μ
C701 0.022
C702 47/6.3
C703 0.022
C704 0.022
C705 0.022
C706 0.022
C707 47/6.3
C708 0.022
C709 0.022
C710 47/6.3
C711 0.022
C712 0.022
C713 0.022
C714 0.022
L702 100μ
R701 470
R702 470
R703 1K
R704 1K
Q701 2SA1179 BUFFER
Q702 2SA1179 BUFFER
BFP
YMPX
DAB
DAR
DAY
SOE
SIE
SOC
SIC
GND
YIB
YIA
RAS/IRE
IRS/CAS
A8/A0
IR1/A1
IR2/A2
IR3/A3
IR4/A4
VSS
RESET
CNVSS
X out
X in
11
12
13
14
15
16
17
18
19
20
21
22

P.C.B. DM-5 DIGITAL VIDEO CIRCUIT (143-0-233V-65800)


R101 2.2K
Q101 BUFFER 2SA1179
C101 0.022
L101 100μ
R102 4.7K
L102 BC2
IC101 HC4053 CMPX
OUT
CMPX BB
BB
VRM
B-Y
VRM
R-Y
C102 0.022
C103 0.022
C104 47/6.3
L103 2.2μ
C105 0.022
D101 1SS184
R103 4.7K
IC201 M50747-680FP INTERFACE μ-COM
I/O PORT
ROM 8K byte
CPU 8bit
RAM 256 byte
INPUT PORT
C G
X out
X in
RESET
CNVSS
VSS
X201 8MHZ
R203 1M
C206 18P
C207 18P
R209 10K
Q202 2SC3395 INVERTER
IC302 M60019-0251FP
GATE ARRAY (TIMING CONTROL)
BFP
YMPX
BLK
DAB
DAR
DAY
SOE
SIE
SOC
SIC
GND
YIB
YIA
RAS/IRE
IRS/CAS
A8/A0
IR1/A1
IR2/A2
IR3/A3
IR4/A4
L301 100μ
C315 0.022
C312 0.022
L401 100μ
C401 0.022
L402 2.2μ
C402 47/6.3
C403 0.022
C404 0.022
C405 0.022
C406 1/50
C407 0.0047
IC401 M52678FP A-D CONVERTER
CLAMP
ANALOG TO DIGITAL
CLOCK
R401 5.1K
C408 0.00047
C409 0.022
F401
C410 0.022
C411 47/6.3
C412 0.022
L403 100μ
C413 0.022
L404 2.2μ
C414 47/6.3
C415 0.022
IC501 MSM4C500L DUAL PORT RAM
DUAL PORT MEMORY
ADRESS DECODER
C501 0.1
IC502 MSM4C500L DUAL PORT RAM
IC601 HC157 YMPX
IC602 HC157 YMPX
C601 0.022
C602 0.022
RB601 4.7X6
RB602 4.7X6
R601 4.7K
IC701 M5269 Y D-A CONVERTER
IC702 M5269 R-Y D-A CONVERTER
ENABLE
DIGITAL TO ANALOG
L701 100μ
L704 1μ
L705 1μ
C701 0.022
C702 47/6.3
C703 0.022
C705 0.022
C706 0.022
C707 47/6.3
C704 0.022
R701 470
R702 470
Q701 2SA1179 BUFFER
L702 100μ
C708 0.022
C709 0.022
C710 47/6.3
C711 0.022
C712 0.022
C713 0.022
C714 0.022
R703 1K
R704 1K
Q702 2SA1179 BUFFER
11
12
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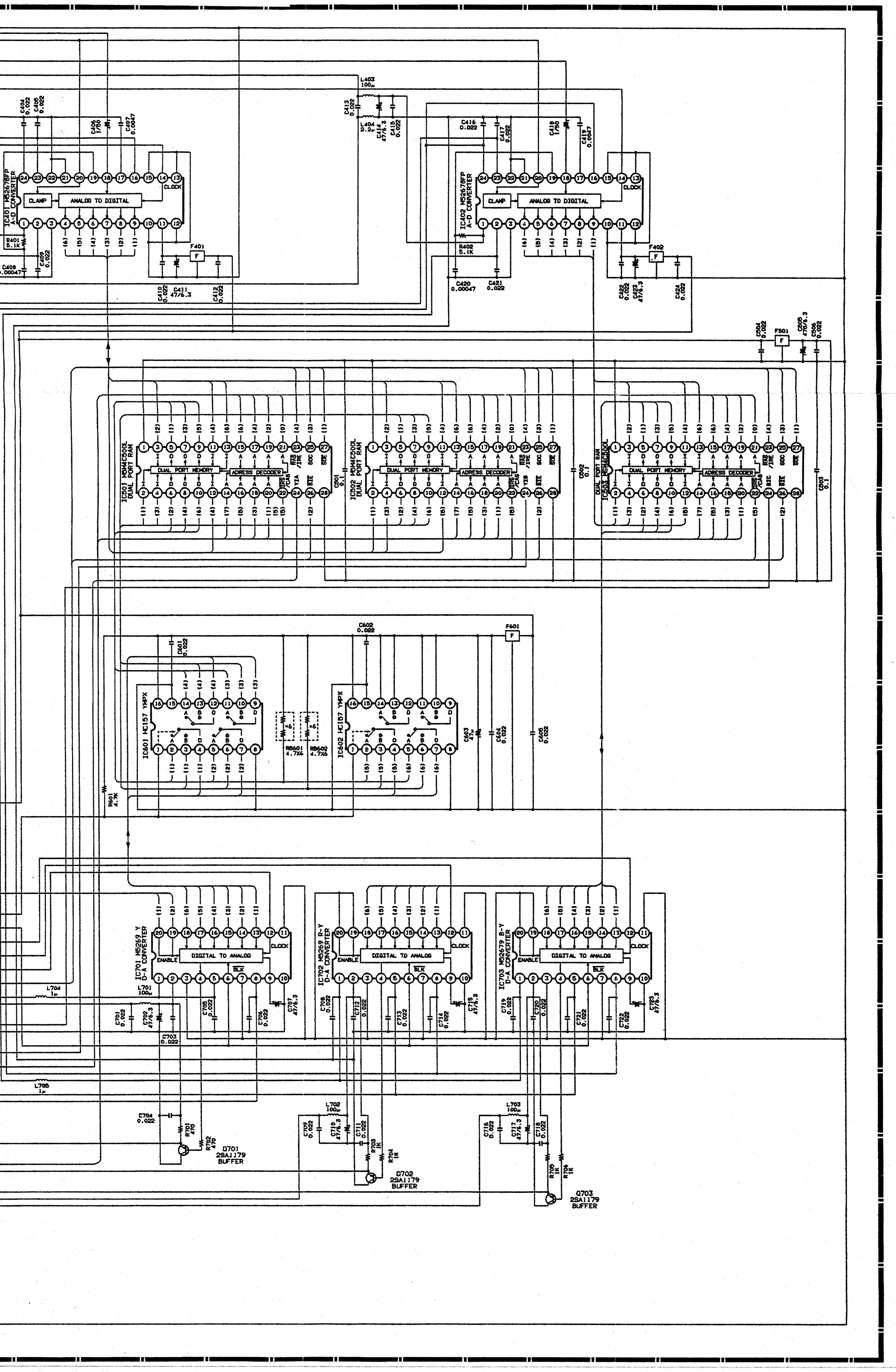
22


IC401 M52678FP A-D CONVERTER
CLAMP
ANALOG TO DIGITAL
CLOCK
C404 0.022
C405 0.022
C406 1/50
C407 0.0047
R401 5.1K
C409 0.022
C408 0.00047
F401
F
C410 0.022
C411 47/6.3
C412 0.022
L403 100µ
C413 0.022
L404 2.2µ
C414 47/6.3
C415 0.022
IC402 M52678FP A-D CONVERTER
C416 0.022
C417 0.022
C418 1/50
C419 0.0047
R402 5.1K
C420 0.00047
C421 0.022
F402
C422 0.022
C423 47/6.3
C424 0.022
C504 0.022
F501
C505 470/6.3
C506 0.022
IC501 M5M4C500L DUAL PORT RAM
DUAL PORT MEMORY
ADRESS DECODER
C501 0.1
IC502 M5M4C500L DUAL PORT RAM
C502 0.1
IC503 M5M4C500L DUAL PORT RAM
C503 0.1
C602 0.022
F601
C601 0.022
IC601 HC157 YMPX
RB601 4.7X6
RB602 4.7X6
IC602 HC157 YMPX
C603 47µ
C604 0.022
C605 0.022
R601 4.7K
IC701 M5269 Y D-A CONVERTER
ENABLE
DIGITAL TO ANALOG
BLK
IC702 M5269 R-Y D-A CONVERTER
IC703 M52679 B-Y D-A CONVERTER
L704 1µ
L701 100µ
C701 0.022
C702 47/6.3
C703 0.022
C705 0.022
C706 0.022
C707 47/6.3
C708 0.022
C712 0.022
C713 0.022
C714 0.022
C715 47/6.3
C719 0.022
C720 0.022
C721 0.022
C722 0.022
C723 47/6.3
L705 1µ
C704 0.022
R701 470
R702 470
Q701 2SA1179 BUFFER
L702 100µ
C709 0.022
C710 47/6.3
C711 0.022
R703 1K
R704 1K
Q702 2SA1179 BUFFER
L703 100µ
C716 0.022
C717 47/6.3
C718 0.022
R705 1K
R706 1K
Q703 2SA1179 BUFFER
18
19
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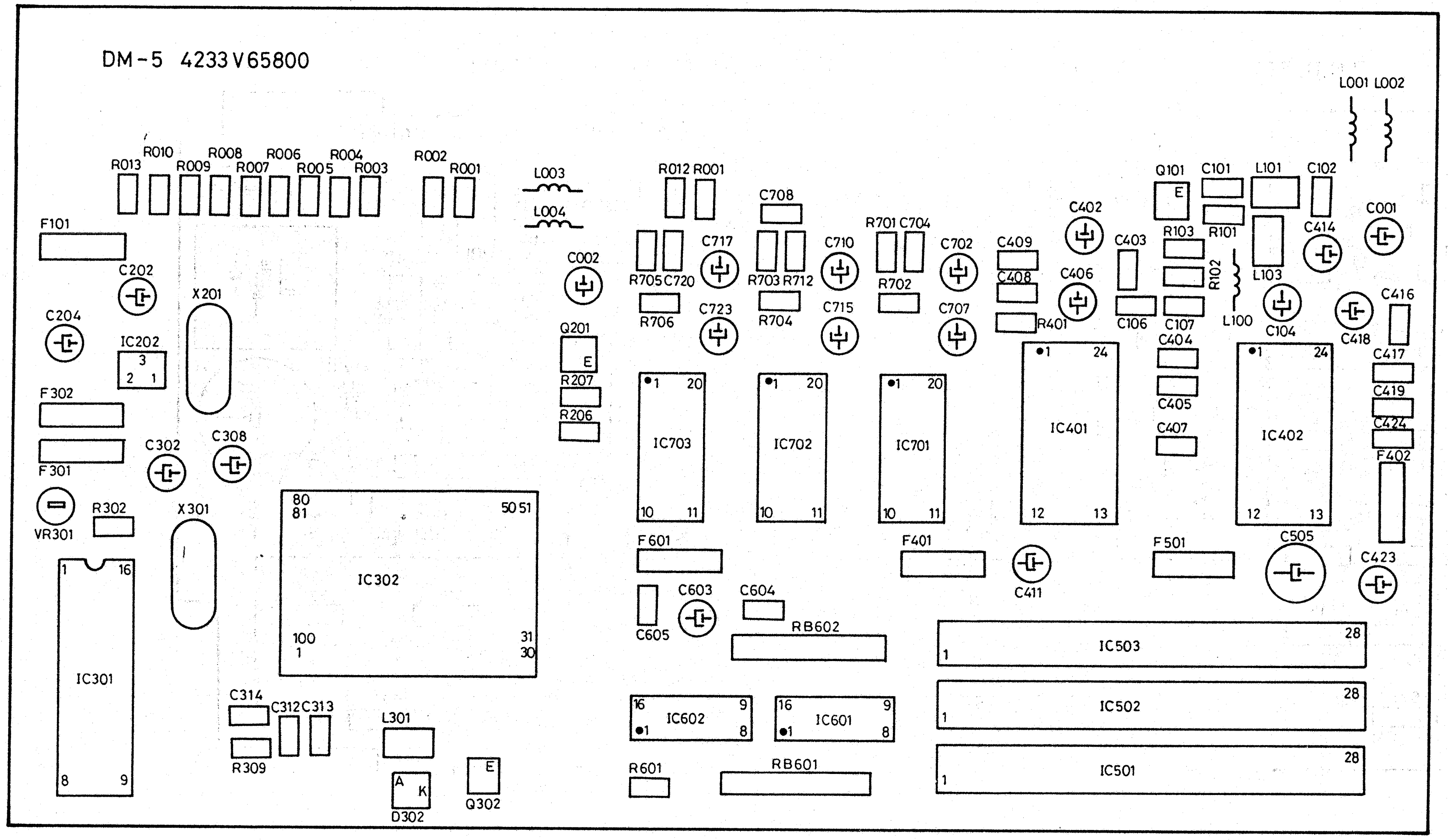
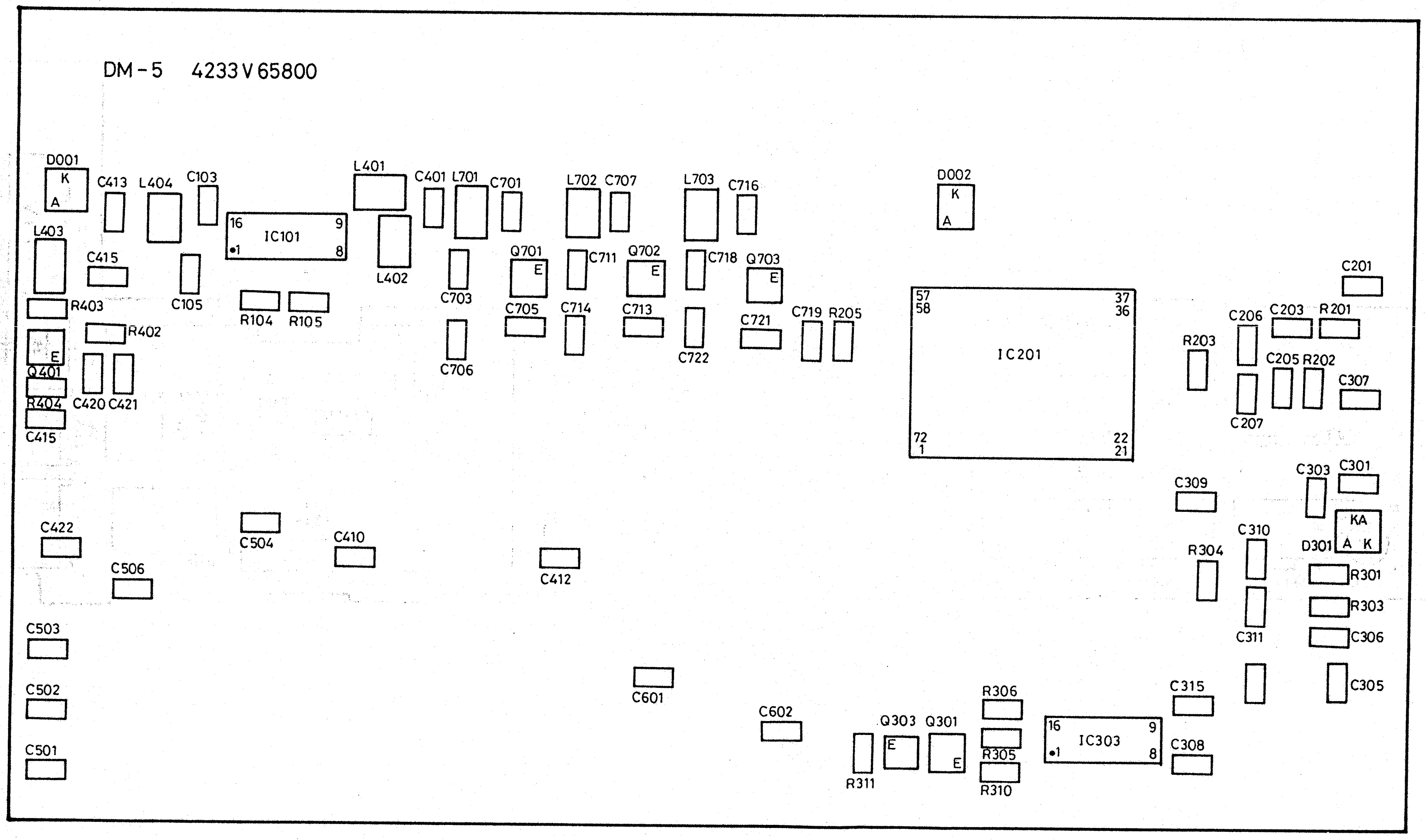
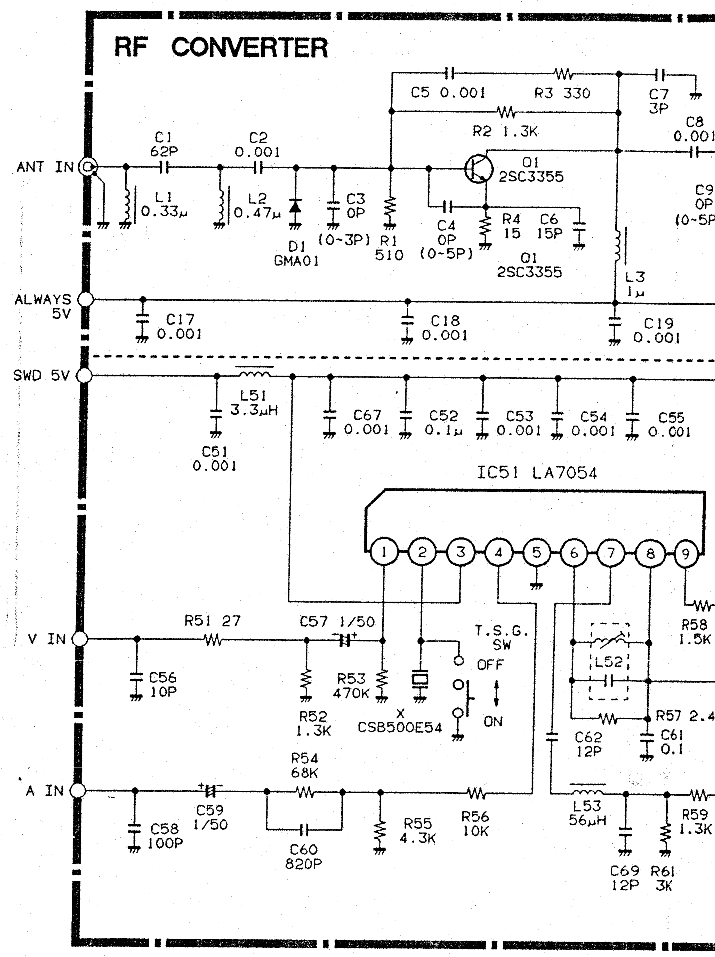
29

P.C.B. DM-5 DIGITAL VIDEO (143-0-233V-65800)

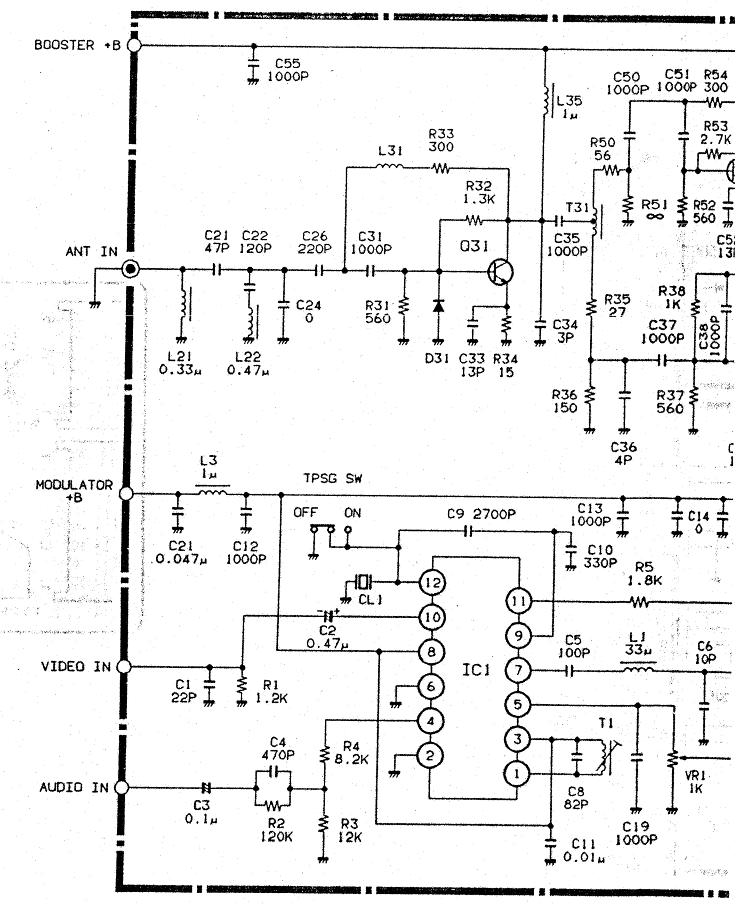

DM-5 4233V65800
R013 R010 R009 R008 R007 R006 R005 R004 R003 R002 R001
L003 L004 L001 L002
F101 C202 X201 C204 IC202 F302 F301 C302 C308 VR301 R302 X301 IC301
IC302 80 81 50 51 100 1 31 30
C314 C312 C313 R309 L301 D302 Q302
C002 Q201 R207 R206
R012 R001 C708 C717 C710 R701 C704 C702 C409 C408 C402 C403 C406
R705 C720 R703 R712 R702 R706 C723 R704 C715 C707 R401
IC703 IC702 IC701 IC401 IC402
Q101 C101 L101 C102 C001 R103 R101 R102 L103 C414 C416 L100 C104 C418 C106 C107 C404 C405 C407 C417 C419 C424 F402
F601 C603 C604 C605 RB602 F401 C411 F501 C505 C423
IC602 IC601 R601 RB601 IC503 IC502 IC501


DM-5 4233V65800
D001 C413 L404 C103 IC101 L401 C401 L701 C701 L702 C707 L703 C716 D002
L403 C415 C105 L402 R104 R105 C703 Q701 C711 Q702 C718 Q703 C705 C714 C713 C721 C719 R205 C706 C722
R403 R402 Q401 R404 C420 C421 C415
IC201 57 58 37 36 72 1 22 21
C201 C206 C203 R201 R203 C205 R202 C307 C207
C422 C504 C410 C412 C506 C309 C303 C301 C310 D301 R304 R301 R303 C311 C306
C503 C502 C501 C601 C602 Q303 Q301 R306 R305 R310 R311 IC303 C315 C308 C305

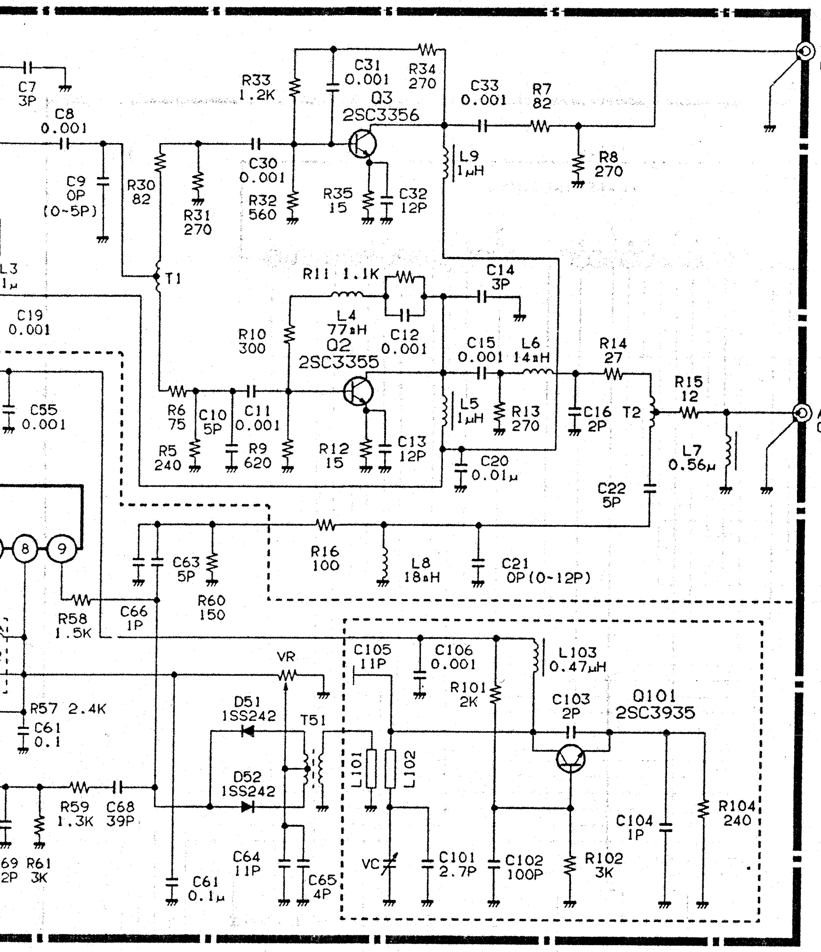
RF CONVERTER


RF CONVERTER
ANT IN
ALWAYS 5V
SWD 5V
V IN
A IN
C5 0.001 R3 330 C7 3P C8 0.001
R2 1.3K
C1 62P C2 0.001
Q1 2SC3355
L1 0.33μ L2 0.47μ D1 GMA01 C3 0P (0~3P) R1 510 C4 0P (0~5P) R4 15 C6 15P
L3 1μ C9 0P (0~5P)
C17 0.001 C18 0.001 C19 0.001
L51 3.3μH C51 0.001 C67 0.001 C52 0.1μ C53 0.001 C54 0.001 C55 0.001
IC51 LA7054
R51 27 C57 1/50 T.S.G. SW OFF ON
C56 10P R53 470K R52 1.3K X CSB500E54 L52 R58 1.5K R57 2.4 C62 12P C61 0.1
R54 68K C59 1/50 C58 100P C60 820P R55 4.3K R56 10K L53 56μH R59 1.3K C69 12P R61 3K

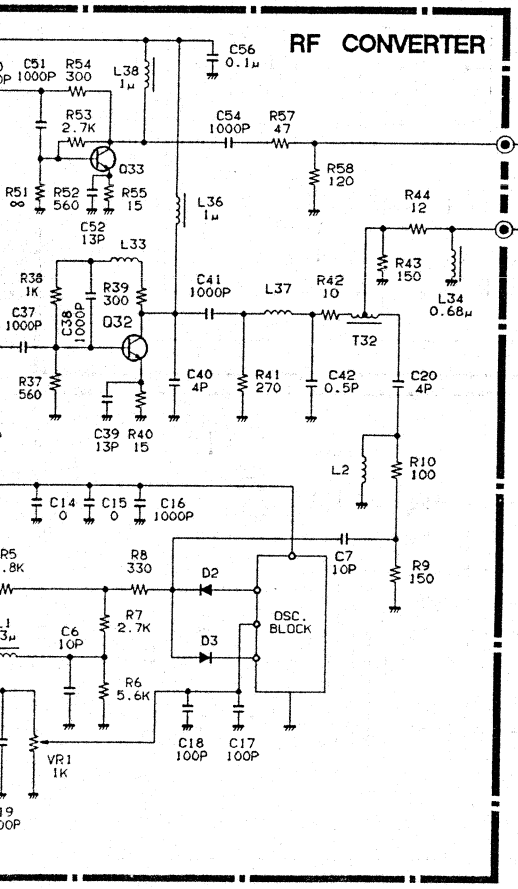
RF CONVERTER CIRCUIT


BOOSTER +B
C55 1000P
L35 1μ C50 1000P C51 1000P R54 300
L31 R33 300 R53 2.7K R50 56 R51 ∞ R52 560
R32 1.3K T31
ANT IN
C21 47P C22 120P C26 220P C31 1000P Q31 C35 1000P
L21 0.33μ L22 0.47μ C24 0 R31 560 D31 C33 13P R34 15 C34 3P R35 27 R38 1K C37 1000P
R36 150 R37 560 C36 4P
MODULATOR +B
L3 1μ TPSG SW OFF ON
C21 0.047μ C12 1000P C9 2700P C13 1000P C14 0 C10 330P R5 1.8K
CL1 C2 0.47μ
VIDEO IN
C1 22P R1 1.2K IC1 C5 100P L1 33μ C6 10P
C4 470P R4 8.2K T1
AUDIO IN
C3 0.1μ R2 120K R3 12K C8 82P C11 0.01μ C19 1000P VR1 1K

RTER CIRCUIT (143-9-4300-84300)


TUNER OUT
ANT. OUT
Q3 2SC3356
Q2 2SC3355
Q101 2SC3935
T1
T2
T51
D51 1SS242
D52 1SS242
VR
VC
L101
L102

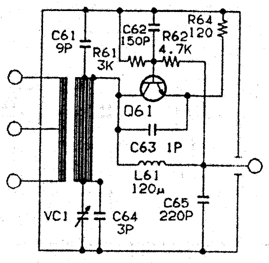
RCUIT (143-9-4300-84400)


RF CONVERTER
VCR TU
ANT OUT
Q33
Q32
T32
D2
D3
OSC. BLOCK
VR1 1K

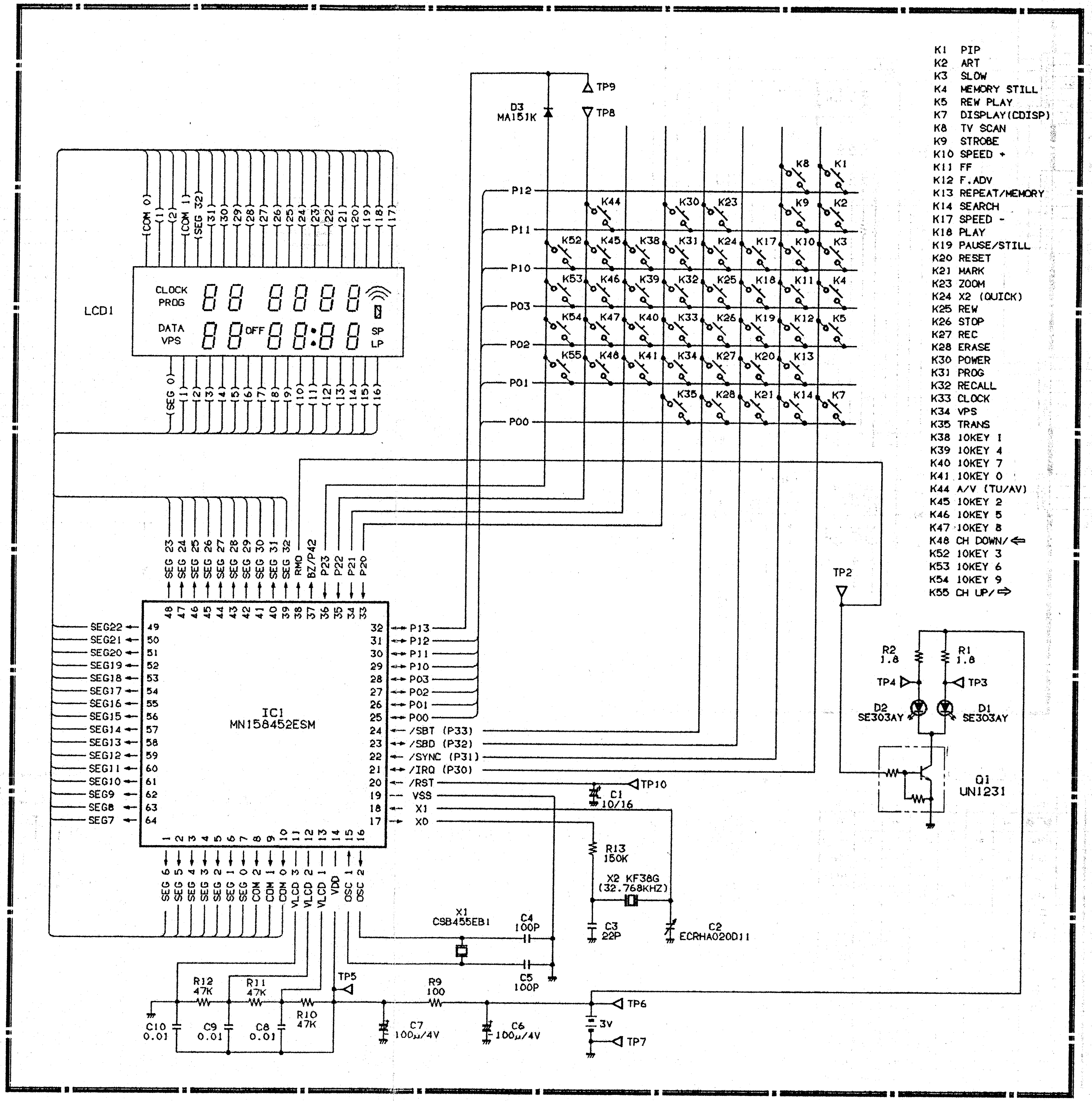
NOTE

IC1 : AJ7080
Q31.Q32 : 2SC3355.2SC2570 OR EQUIVALENT
Q61 : 2SC2480 OR EQUIVALENT
D2.D3 : HSM276 OR EQUIVALENT
D31 : 1SS133.1SS83 OR EQUIVALENT
UNIT : RESISTOR : O
CAPACITOR : F
INDUCTOR : H

OSC BLOCK


C61 9P
C62 150P
R61 3K
R62 4.7K
R64 120
Q61
C63 1P
L61 120μ
C65 220P
VC1
C64 3P
+B

IR REMOTE CONTROL CIRCUIT (143-9-4100-68920)


LCD1
CLOCK
PROG
DATA
VPS
OFF
SP
LP
IC1 MN158452ESM
D3 MA151K
TP9
TP8
TP2
TP10
TP5
TP6
TP7
3V
R2 1.8
R1 1.8
TP4
TP3
D2 SE303AY
D1 SE303AY
Q1 UN1231
X1 CSB455EB1
X2 KF38G (32.768KHZ)
C2 ECRHA020D11
P12
P11
P10
P03
P02
P01
P00

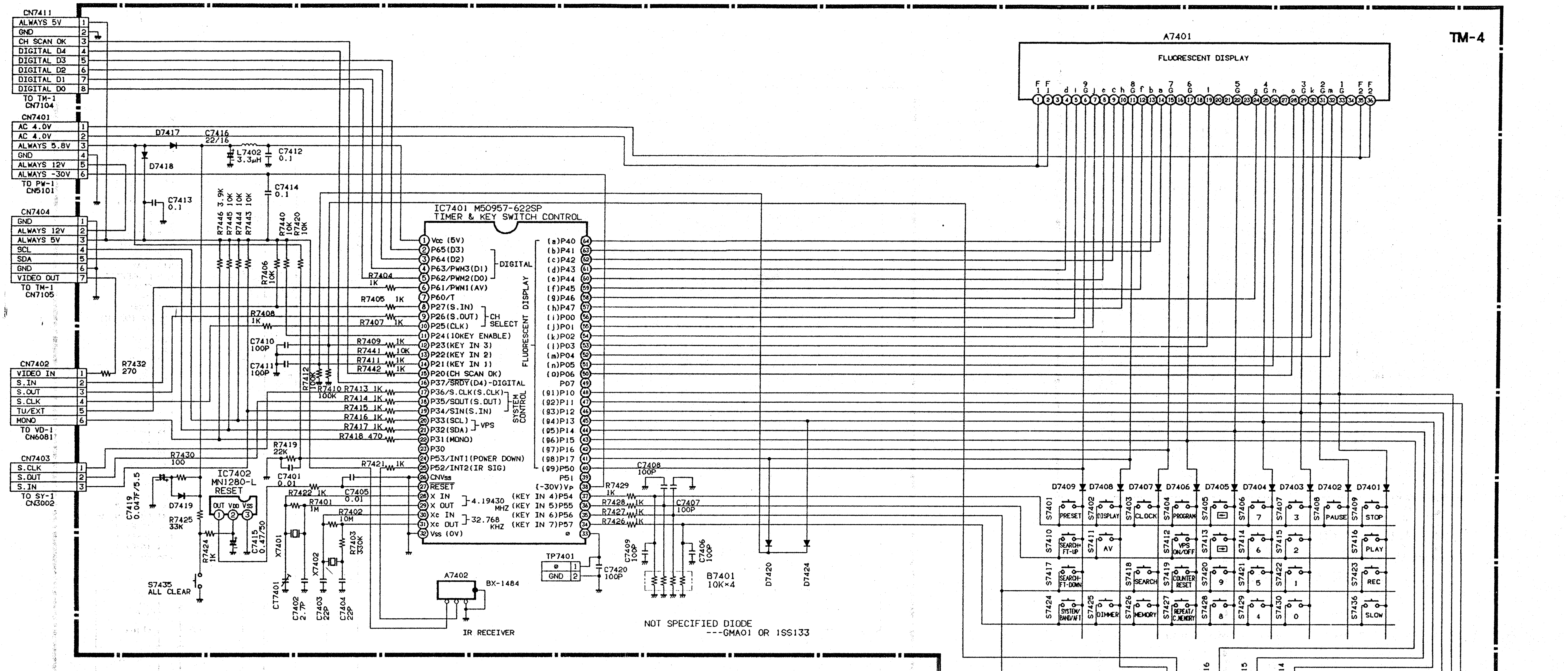
K1	PIP
K2	ART
K3	SLOW
K4	MEMORY STILL
K5	REW PLAY
K7	DISPLAY(CDISP)
K8	TV SCAN
K9	STROBE
K10	SPEED +
K11	FF
K12	F.ADV
K13	REPEAT/MEMORY
K14	SEARCH
K17	SPEED -
K18	PLAY
K19	PAUSE/STILL
K20	RESET
K21	MARK
K23	ZOOM
K24	X2 (QUICK)
K25	REW
K26	STOP
K27	REC
K28	ERASE
K30	POWER
K31	PROG
K32	RECALL
K33	CLOCK
K34	VPS
K35	TRANS
K38	10KEY 1
K39	10KEY 4
K40	10KEY 7
K41	10KEY 0
K44	A/V (TU/AV)
K45	10KEY 2
K46	10KEY 5
K47	10KEY 8
K48	CH DOWN/⇐
K52	10KEY 3
K53	10KEY 6
K54	10KEY 9
K55	CH UP/⇒

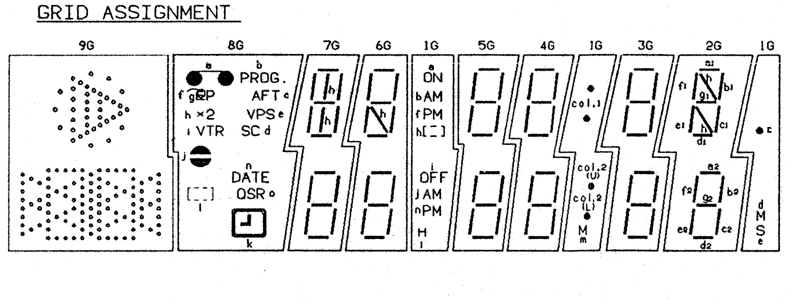
◎ VHR-D700EX
VHR-D700G

16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31

P.C.B. TM-4 TIMER, SWITCH CONTROL & IR RECEIVER CIRCUIT (143-0-233V-61823)
P.C.B. TM-5 DISPLAY, SWITCH & VR CIRCUIT (143-0-233V-51403)

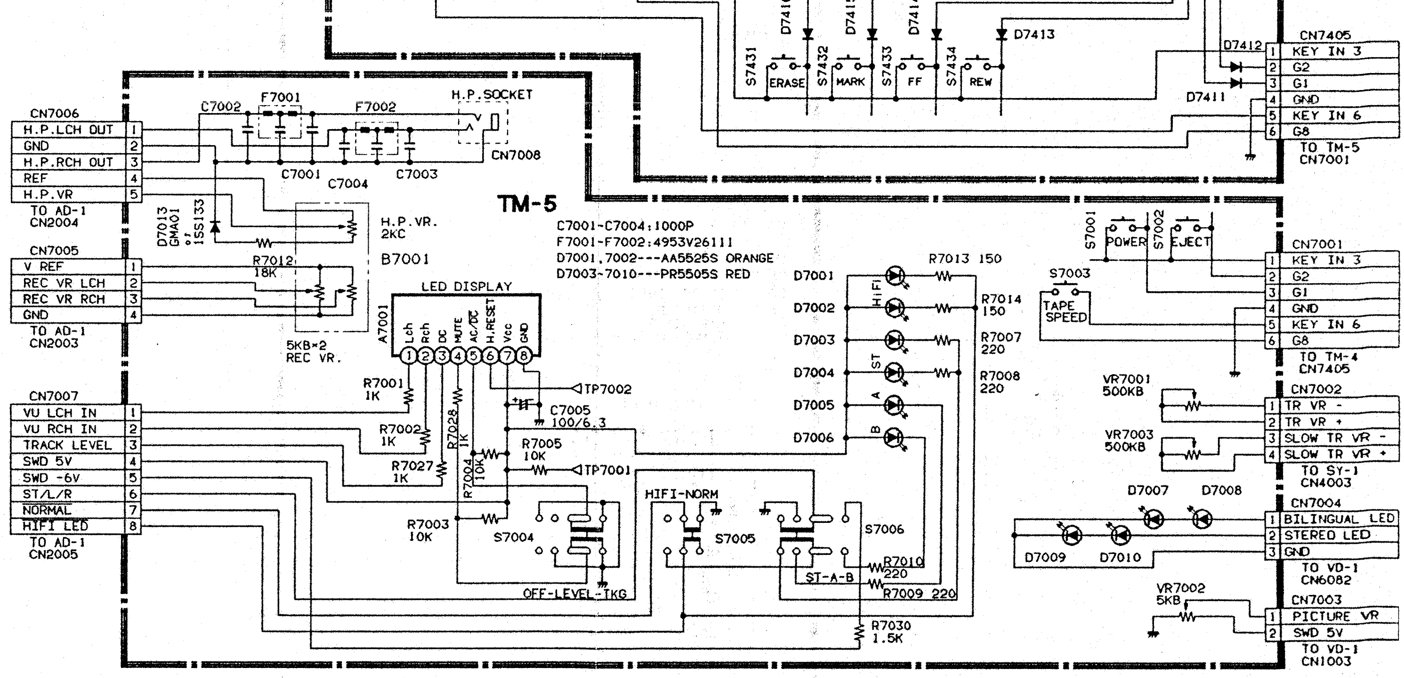
Ⓟ
VHR-D700EX
VHR-D700G


TM-4
A7401
FLUORESCENT DISPLAY
IC7401 M50957-622SP
TIMER & KEY SWITCH CONTROL
IC7402 MN1280-L RESET
CN7411
ALWAYS 5V
GND
CH SCAN OK
DIGITAL D4
DIGITAL D3
DIGITAL D2
DIGITAL D1
DIGITAL D0
TO TM-1 CN7104
CN7401
AC 4.0V
AC 4.0V
ALWAYS 5.8V
GND
ALWAYS 12V
ALWAYS -30V
TO PW-1 CN5101
CN7404
GND
ALWAYS 12V
ALWAYS 5V
SCL
SDA
GND
VIDEO OUT
TO TM-1 CN7105
CN7402
VIDEO IN
S.IN
S.OUT
S.CLK
TU/EXT
MONO
TO VD-1 CN6081
CN7403
S.CLK
S.OUT
S.IN
TO SY-1 CN3002
DIGITAL
CH SELECT
FLUORESCENT DISPLAY
SYSTEM CONTROL
VPS
S7435 ALL CLEAR
A7402 BX-1484
IR RECEIVER
TP7401
B7401 10K×4
NOT SPECIFIED DIODE
---GMA01 OR 1SS133
PRESET
DISPLAY
CLOCK
PROGRAM
PAUSE
STOP
SEARCH+ FF-UP
AV
VPS ON/OFF
PLAY
SEARCH- FF-DOWN
SEARCH
COUNTER RESET
REC
SYSTEM/ BAND/AFT
DIMMER
MEMORY
REPEAT/ C.MEMORY
SLOW

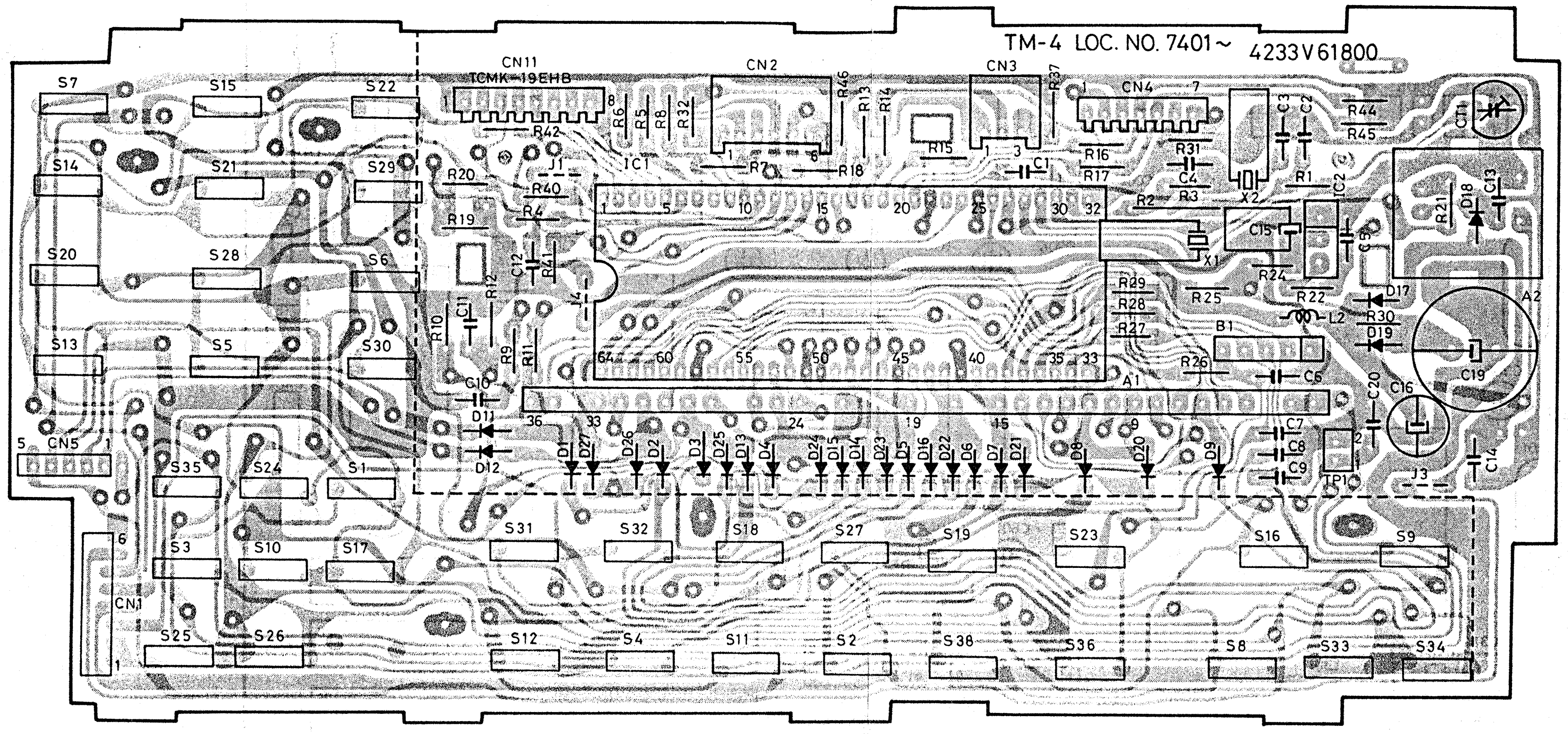

GRID ASSIGNMENT
9G
8G
7G
6G
1G
5G
4G
1G
3G
2G
1G
PROG.
AFT
VPS
SC
×2
VTR
DATE
OSR
ON
AM
PM
OFF
col.1
col.2

ANODE CONNECTION

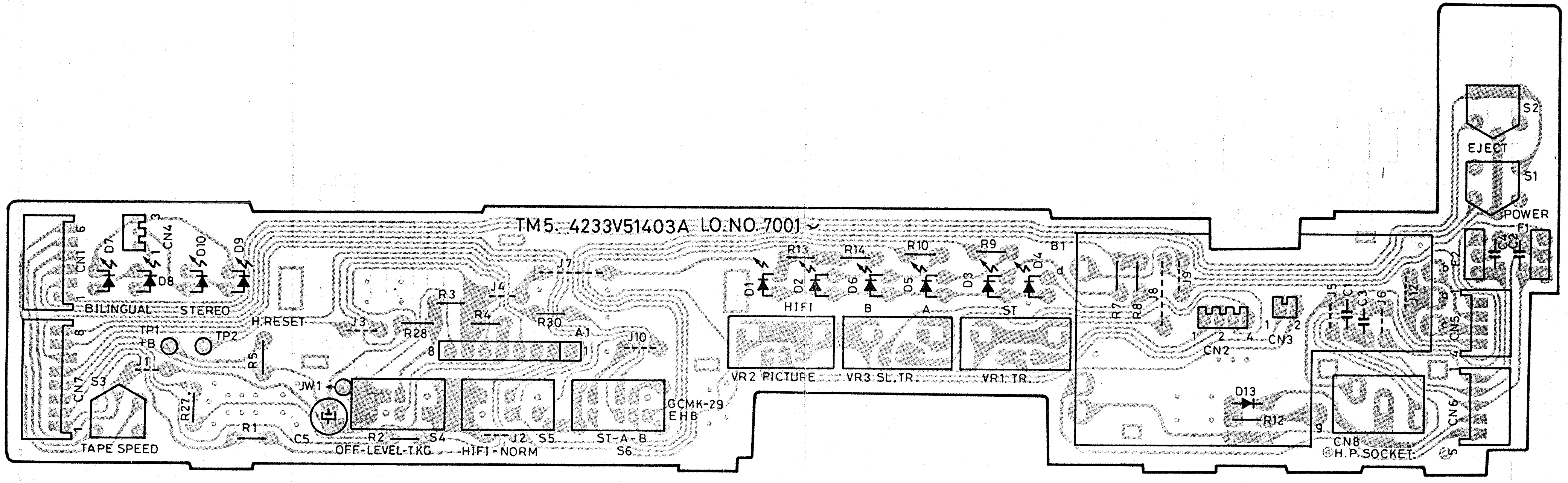
	9G	8G	7G	6G	5G	4G	3G	2G	1G
a	B	●●	a1	a1	a1	a1	a1	a1	ON
b	A	PROG.	b1	b1	b1	b1	b1	b1	AM(1)
c	-	AFT	c1	c1	c1	c1	c1	c1	DP
d	-	SC	d1	d1	d1	d1	d1	d1	M(1)
e	-	VPS	e1	e1	e1	e1	e1	e1	S
f	C	EP	f1	f1	f1	f1	f1	f1	PM(1)
g	D	LP	g1	g1	g1	g1	g1	g1	col.1
h	-	×2	/	\	-	-	-	\	⋯
i	-	VTR	a2	a2	a2	a2	a2	a2	OFF
j	E	⊖	b2	b2	b2	b2	b2	b2	AM(2)
k	I	▣	c2	c2	c2	c2	c2	c2	col.2(L)
l	H	⋯	d2	d2	d2	d2	d2	d2	H
m	J	-	e2	e2	e2	e2	e2	e2	M(2)
n	F	DATE	f2	f2	f2	f2	f2	f2	PM(2)
o	G	OSR	g2	g2	g2	g2	g2	g2	col.2(U)


TM-5
CN7405
KEY IN 3
G2
G1
GND
KEY IN 6
G8
TO TM-5 CN7001
ERASE
MARK
FF
REW
CN7006
H.P.LCH OUT
GND
H.P.RCH OUT
REF
H.P.VR
TO AD-1 CN2004
H.P.SOCKET
CN7008
H.P.VR. 2KC
B7001
CN7005
V REF
REC VR LCH
REC VR RCH
GND
TO AD-1 CN2003
5KB×2 REC VR.
LED DISPLAY
Lch
Rch
DC
MUTE
AC/DC
H.RESET
Vcc
GND
TP7002
TP7001
CN7007
VU LCH IN
VU RCH IN
TRACK LEVEL
SWD 5V
SWD -6V
ST/L/R
NORMAL
HIFI LED
TO AD-1 CN2005
HIFI-NORM
OFF-LEVEL-TKG
ST-A-B
C7001~C7004:1000P
F7001~F7002:4953V26111
D7001,7002---AA5525S ORANGE
D7003~7010---PR5505S RED
HiFi
ST
A
B
POWER
EJECT
TAPE SPEED
CN7001
KEY IN 3
G2
G1
GND
KEY IN 6
G8
TO TM-4 CN7405
VR7001 500KB
CN7002
TR VR -
TR VR +
SLOW TR VR -
SLOW TR VR +
VR7003 500KB
TO SY-1 CN4003
CN7004
BILINGUAL LED
STEREO LED
GND
TO VD-1 CN6082
VR7002 5KB
CN7003
PICTURE VR
SWD 5V
TO VD-1 CN1003

P.C.B. TM-4 TIMER, SWITCH CONTROL & IR RECEIVER (143-0-233V-61823)


TM-4 LOC. NO. 7401~
4233V61800
CN11
TCMK-19EHB
CN2
CN3
CN4
CN5
CN1
IC1
IC2
A1
A2
B1
X1
X2
L2
J1
J3
TP1
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
S16
S17
S18
S19
S20
S21
S22
S23
S24
S25
S26
S27
S28
S29
S30
S31
S32
S33
S34
S35
S36

P.C.B. TM-5 DISPLAY, SWITCH & VR (143-0-233V-51403)


TM5 4233V51403A LO.NO.7001~
CN1
CN2
CN3
CN4
CN5
CN6
CN7
CN8
H.P.SOCKET
BILINGUAL
STEREO
H.RESET
TP1
+B
TP2
TAPE SPEED
JW1
C5
OFF-LEVEL-TKG
HIFI-NORM
ST-A-B
GCMK-29
EHB
HIFI
B
A
ST
VR2 PICTURE
VR3 SL.TR.
VR1 TR.
EJECT
POWER
S1
S2
S3
S4
S5
S6

CN7405

EY IN 3
2
1
ND
EY IN 6
8

TO TM-5
CN7001

N7001

EY IN 3
2
1
ND
EY IN 6
8

TO TM-4
CN7405

N7002

VR -
VR +
OW TR VR -
OW TR VR +

TO SY-1
CN4003

N7004

LINGUAL LED
EREO LED
D

TO VD-1
CN6082

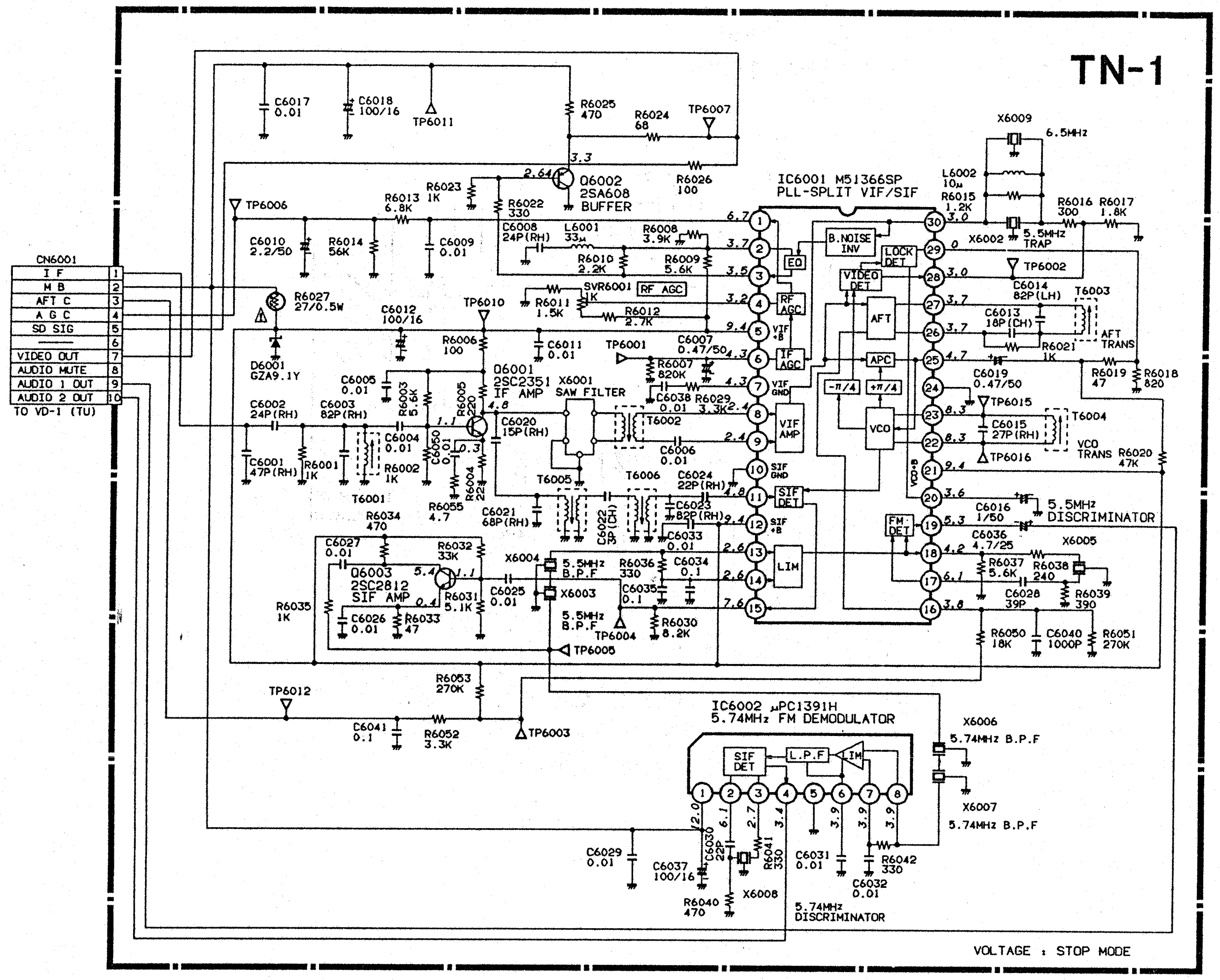
N7003

ICTURE VR
ND 5V

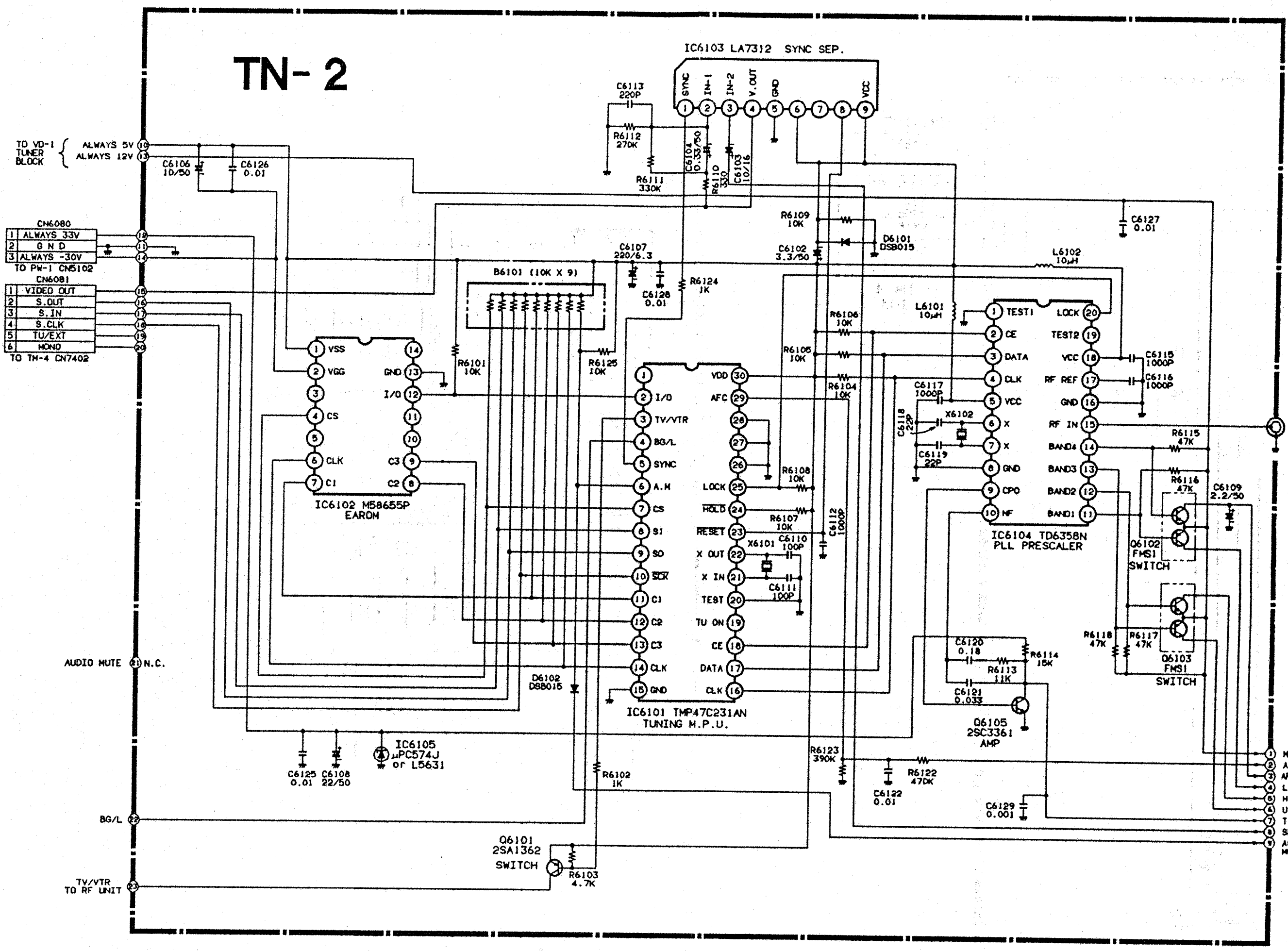
TO VD-1
CN1003

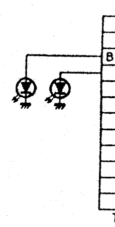
17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31

P.C.B. TN-1 TUNER IF CIRCUIT & P.C.B. (143-0-233V-48100)

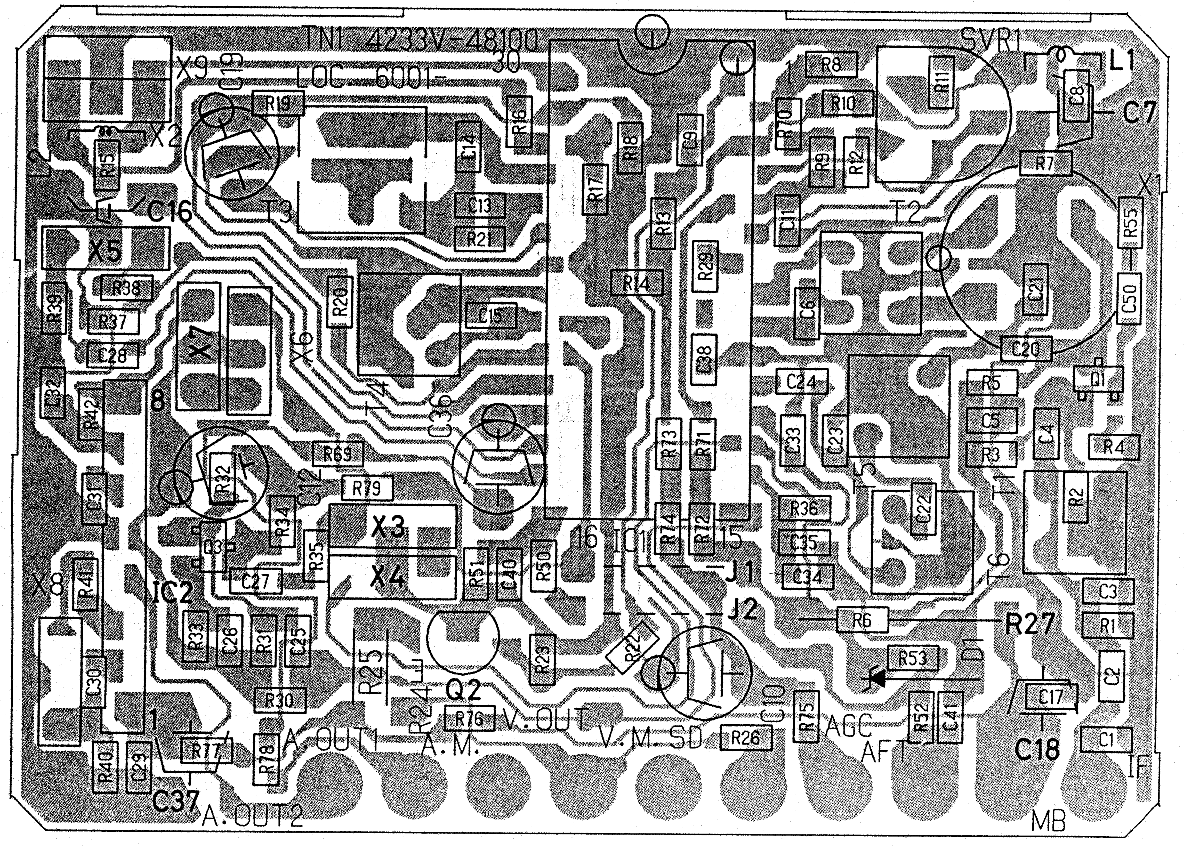

TN-1
CN6001
IF
M B
AFT C
A G C
SD SIG
VIDEO OUT
AUDIO MUTE
AUDIO 1 OUT
AUDIO 2 OUT
TO VD-1 (TU)
IC6001 M51366SP PLL-SPLIT VIF/SIF
Q6002 2SA608 BUFFER
Q6001 2SC2351 IF AMP
X6001 SAW FILTER
Q6003 2SC2812 SIF AMP
X6004 5.5MHz B.P.F
X6003 5.5MHz B.P.F
X6009 6.5MHz
X6002 5.5MHz TRAP
T6003 AFT TRANS
T6004 VCO TRANS
5.5MHz DISCRIMINATOR
D6001 GZA9.1Y
SVR6001 RF AGC
IC6002 μPC1391H 5.74MHz FM DEMODULATOR
X6006 5.74MHz B.P.F
X6007 5.74MHz B.P.F
X6008 5.74MHz DISCRIMINATOR
VOLTAGE : STOP MODE

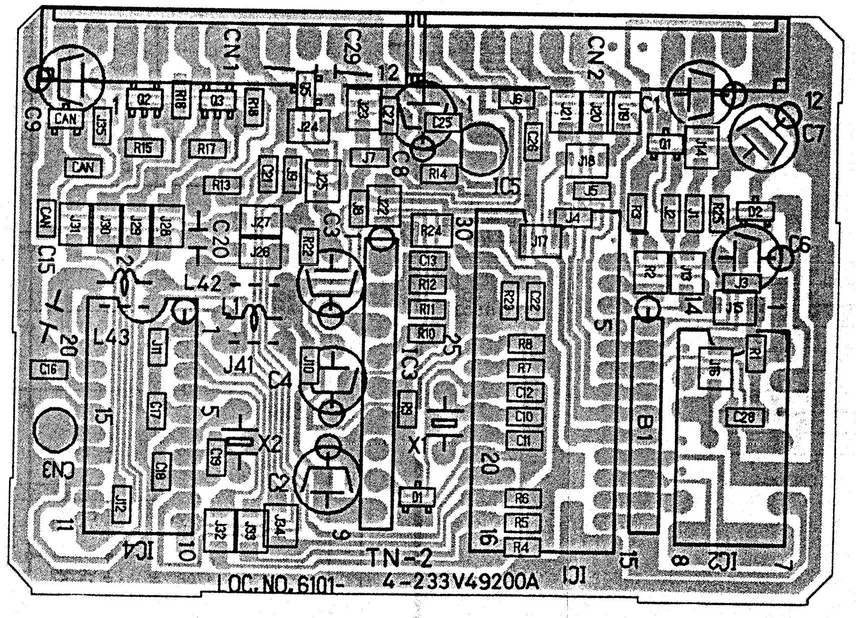
P.C.B. TN-2 TUNING CONTROL CIRCUIT & P.C.B. (143-0-233V-49221)

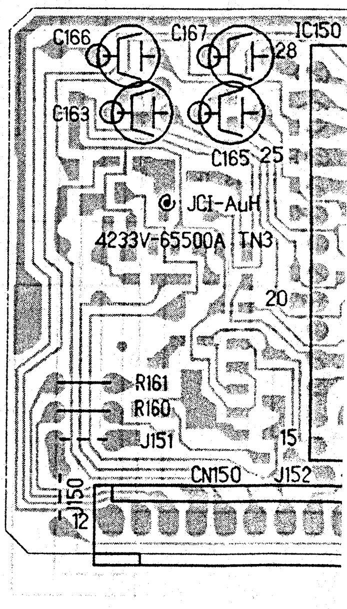

TN- 2
IC6103 LA7312 SYNC SEP.
TO VD-1 TUNER BLOCK
ALWAYS 5V
ALWAYS 12V
CN6080
ALWAYS 33V
GND
ALWAYS -30V
TO PW-1 CN5102
CN6081
VIDEO OUT
S.OUT
S.IN
S.CLK
TU/EXT
MONO
TO TM-4 CN7402
B6101 (10K X 9)
IC6102 M58655P EAROM
IC6101 TMP47C231AN TUNING M.P.U.
IC6104 TD6358N PLL PRESCALER
Q6102 FMSI SWITCH
Q6103 FMSI SWITCH
Q6105 2SC3361 AMP
Q6101 2SA1362 SWITCH
IC6105 μPC574J or L5631
D6101 DS8015
D6102 DS8015
TU LOCAL IN
AUDIO MUTE N.C.
BG/L
TV/VTR TO RF UNIT
M B
AFT C
AFT(SD)
L B
H B
U B
T U
SD SIG
AUDIO MUTE



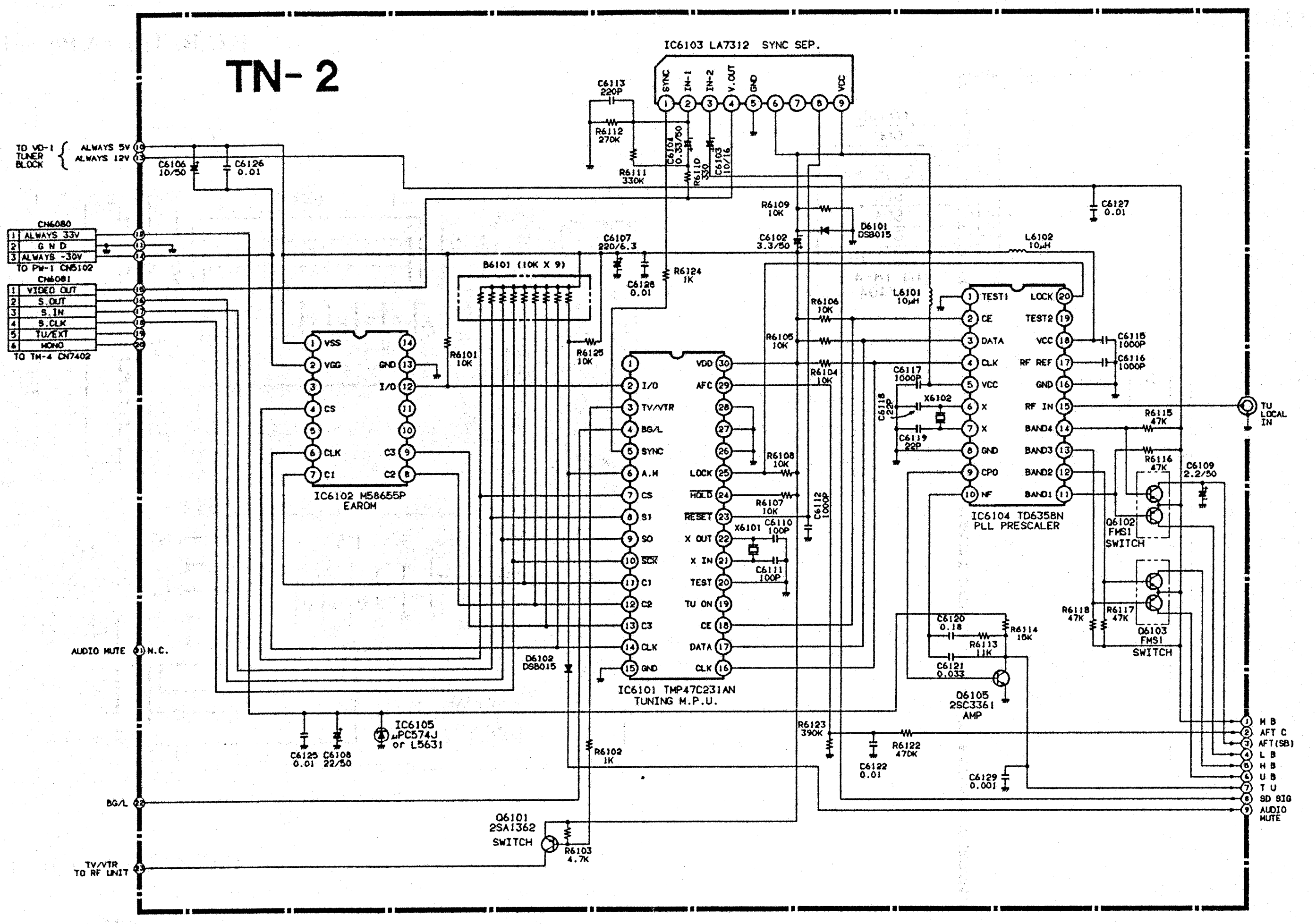
®
VHR-D700EX
VHR-D700G


TN1 4233V-48100
LOC. 6001-
A.OUT1
A.OUT2
A.M.
V.OUT
V.M.SD
AGC
AFT
MB
IF

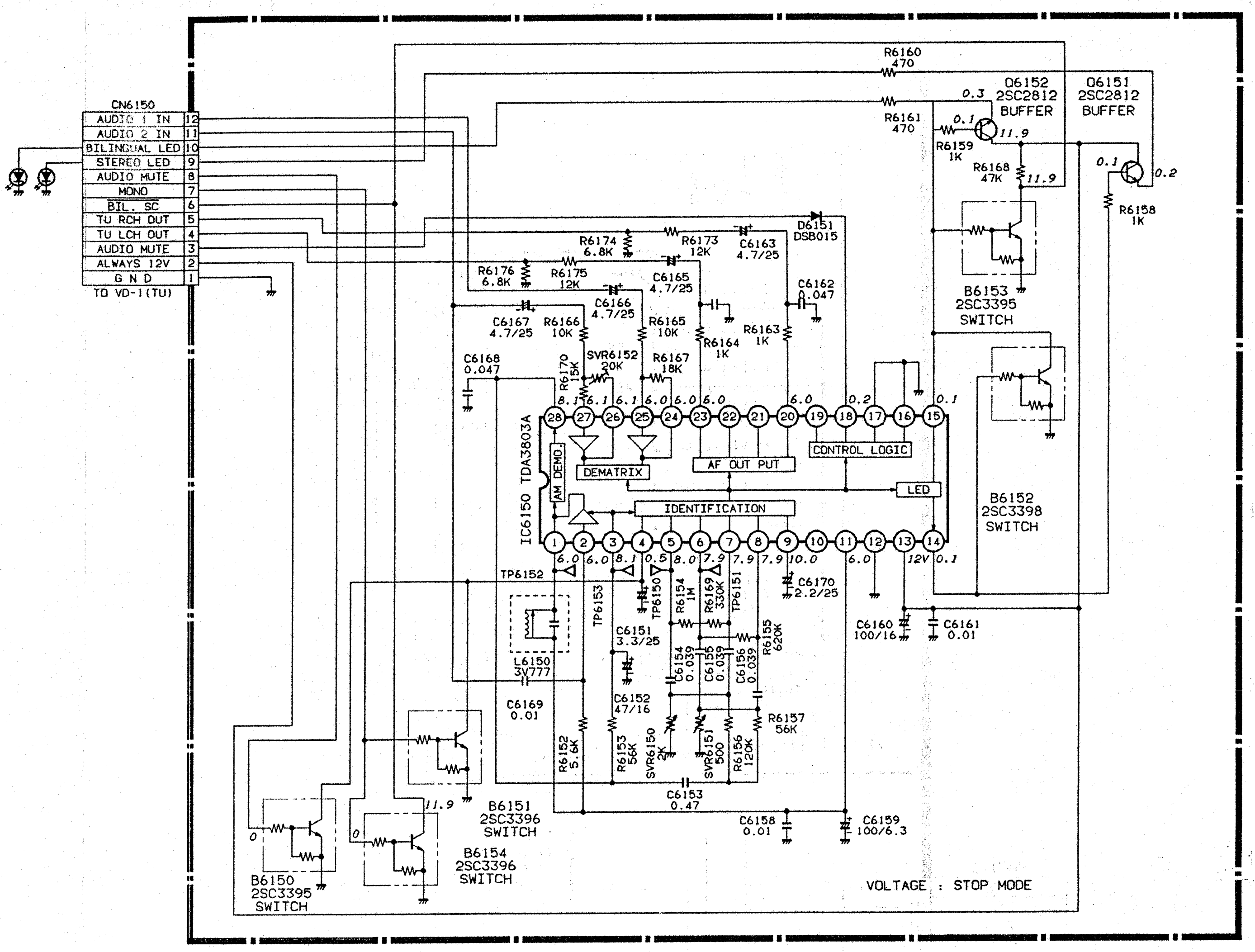

TN-2
LOC. NO. 6101-
4-233V49200A
CN1
CN2
CN3

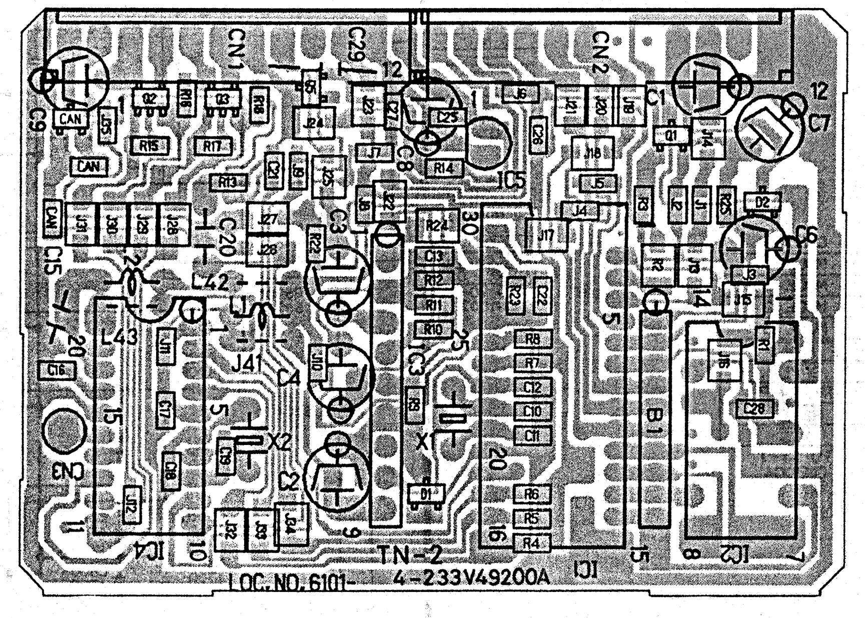

4233V-65500A TN3
CN150

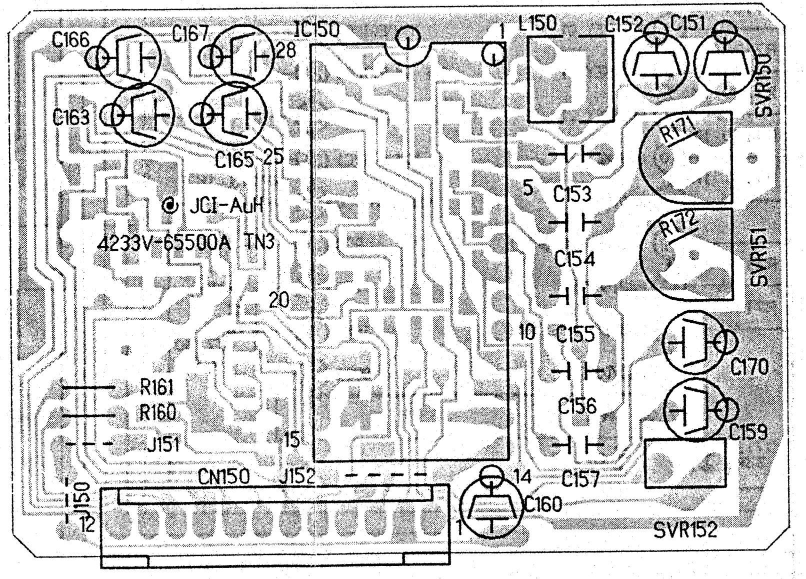
P.C.B. TN-2 TUNING CONTROL CIRCUIT & P.C.B. (143-0-233V-49221)

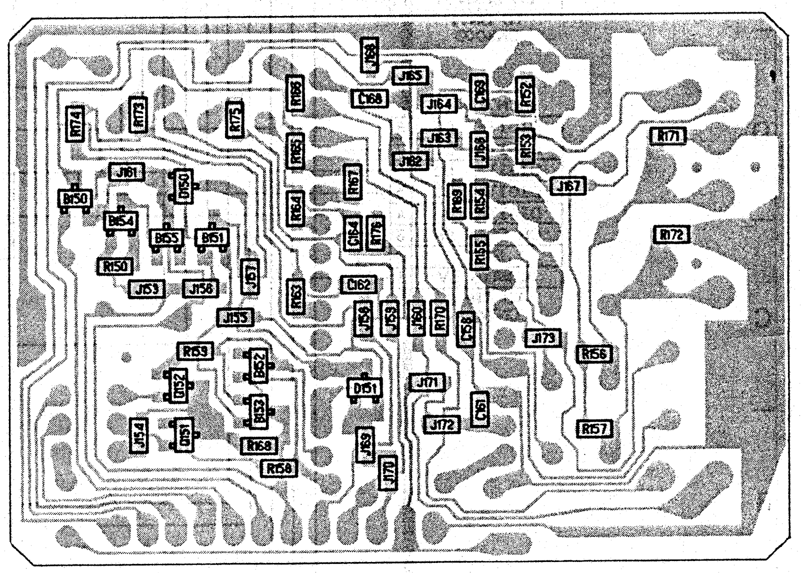

TN- 2
IC6103 LA7312 SYNC SEP.
IC6102 M58655P EAROM
IC6101 TMP47C231AN TUNING M.P.U.
IC6104 TD6358N PLL PRESCALER
IC6105 μPC574J or L5631
B6101 (10K X 9)
Q6101 2SA1362 SWITCH
Q6102 FMS1 SWITCH
Q6103 FMS1 SWITCH
Q6105 2SC3361 AMP
D6101 DSB015
D6102 DSB015
TO VD-1 TUNER BLOCK
ALWAYS 5V
ALWAYS 12V
CN6080
ALWAYS 33V
GND
ALWAYS -30V
TO PW-1 CN5102
CN6081
VIDEO OUT
S.OUT
S.IN
S.CLK
TU/EXT
MONO
TO TN-4 CN7402
AUDIO MUTE
BG/L
TV/VTR TO RF UNIT
TU LOCAL IN
MB
AFT C
AFT(SB)
LB
HB
UB
TU
SD SIG
AUDIO MUTE

P.C.B. TN-3 DEMODULATION CIRCUIT & P.C.B. (143-0-233V-65500)


CN6150
AUDIO 1 IN
AUDIO 2 IN
BILINGUAL LED
STEREO LED
AUDIO MUTE
MONO
BIL. SC
TU RCH OUT
TU LCH OUT
AUDIO MUTE
ALWAYS 12V
GND
TO VD-1 (TU)
IC6150 TDA3803A
AM DEMO
DEMATRIX
AF OUT PUT
CONTROL LOGIC
IDENTIFICATION
LED
Q6152 2SC2812 BUFFER
Q6151 2SC2812 BUFFER
B6153 2SC3395 SWITCH
B6152 2SC3398 SWITCH
B6151 2SC3396 SWITCH
B6154 2SC3396 SWITCH
B6150 2SC3395 SWITCH
D6151 DSB015
L6150 3V777
TP6150
TP6151
TP6152
TP6153
SVR6150
SVR6151
SVR6152 20K
VOLTAGE : STOP MODE


CN1
CN2
CN3
IC1
IC2
IC3
IC4
IC5
TN-2
LOC.NO.6101-
4-233V49200A

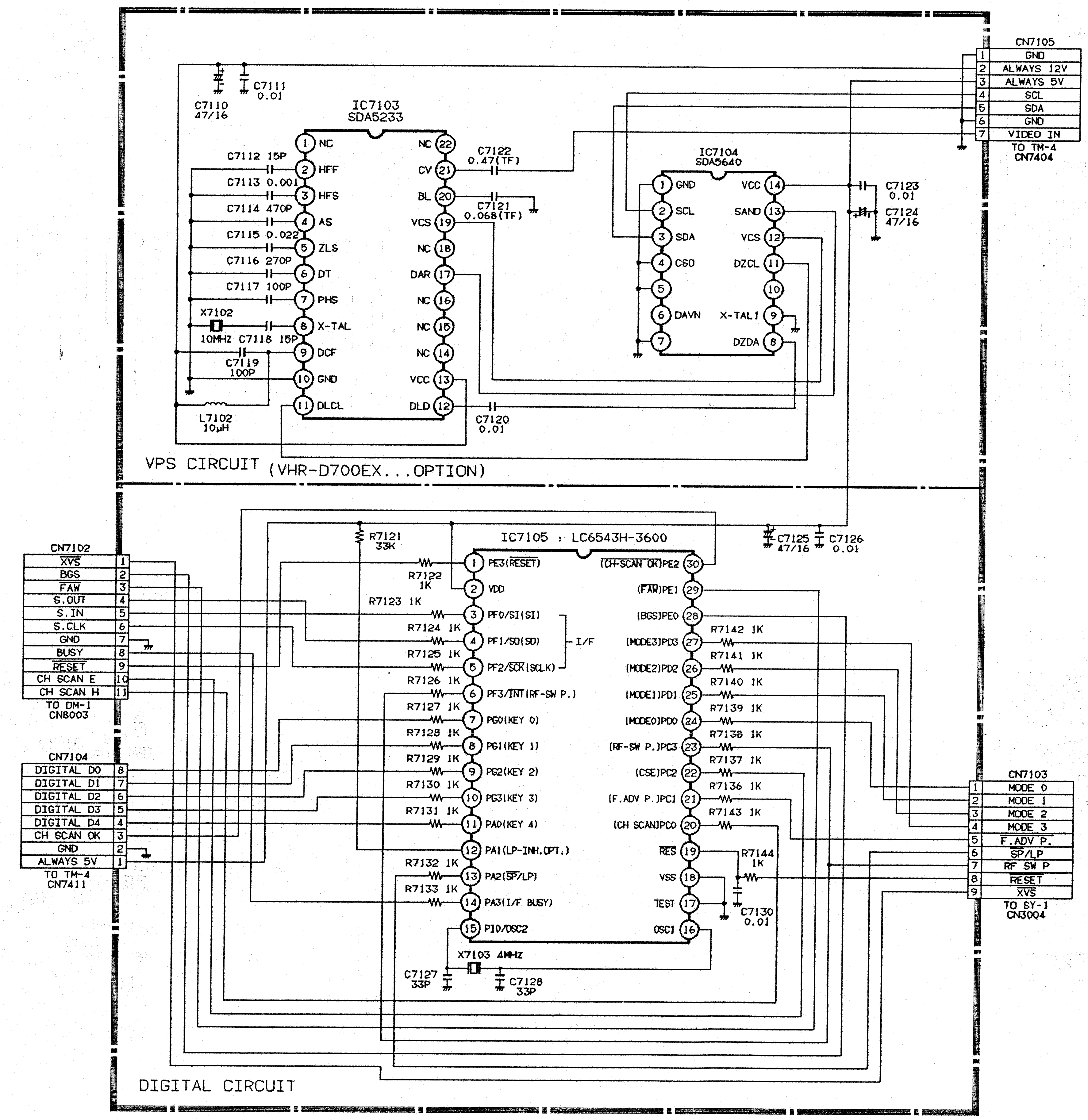

IC150
L150
C151
C152
C163
C165
C166
C167
C153
C154
C155
C156
C157
C159
C160
C170
R171
R172
R160
R161
J151
J152
CN150
SVR150
SVR151
SVR152
JCI-AuH
4233V-65500A TN3



CHIP PARTS

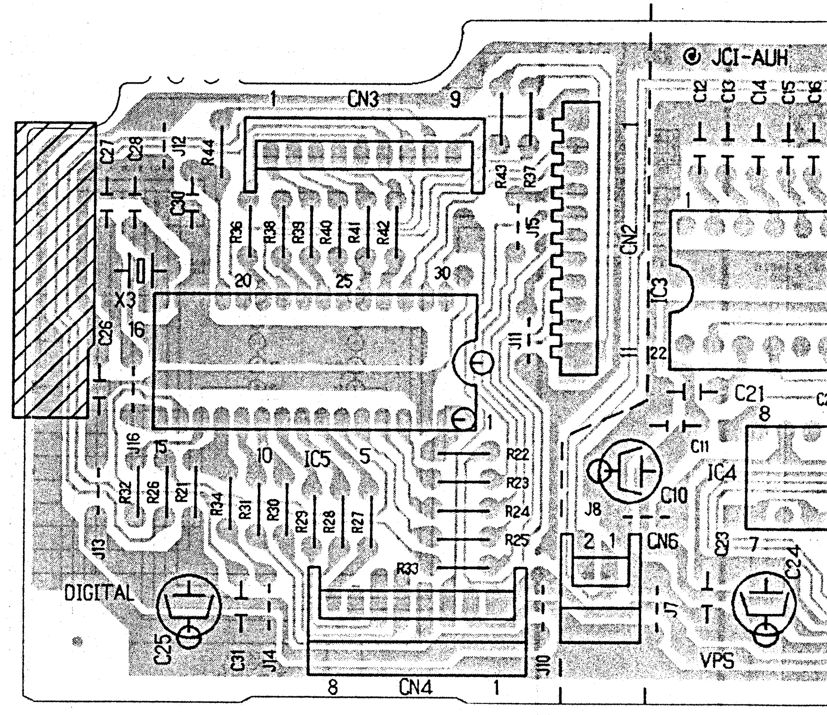
8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23

P.C.B. TM-1 VPS & DIGITAL CIRCUIT (VHR-D700G 143-0-233V-61900)
(VHR-D700EX 143-0-233V-61923)



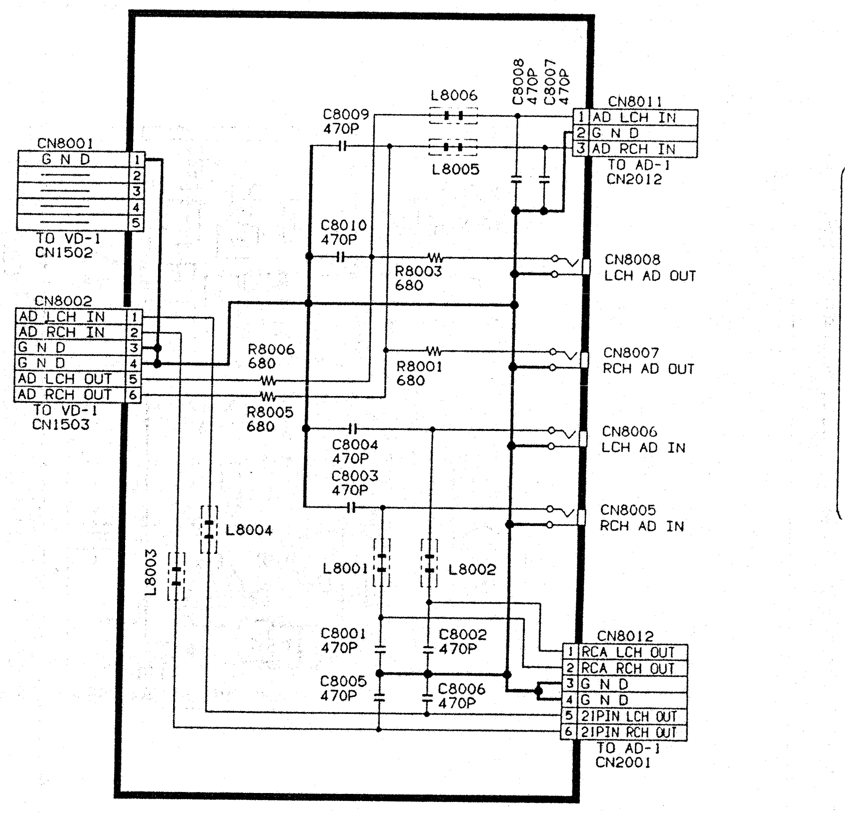
C7110 47/16
C7111 0.01
IC7103 SDA5233
1 NC
2 HFF
3 HFS
4 AS
5 ZLS
6 DT
7 PHS
8 X-TAL
9 DCF
10 GND
11 DLCL
22 NC
21 CV
20 BL
19 VCS
18 NC
17 DAR
16 NC
15 NC
14 NC
13 VCC
12 DLD
C7112 15P
C7113 0.001
C7114 470P
C7115 0.022
C7116 270P
C7117 100P
X7102 10MHZ
C7118 15P
C7119 100P
L7102 10µH
C7122 0.47(TF)
C7121 0.068(TF)
C7120 0.01
IC7104 SDA5640
1 GND
2 SCL
3 SDA
4 CSO
5
6 DAVN
7
14 VCC
13 SAND
12 VCS
11 DZCL
10
9 X-TAL1
8 DZDA
C7123 0.01
C7124 47/16
CN7105
1 GND
2 ALWAYS 12V
3 ALWAYS 5V
4 SCL
5 SDA
6 GND
7 VIDEO IN
TO TM-4 CN7404
VPS CIRCUIT (VHR-D700EX...OPTION)
R7121 33K
C7125 47/16
C7126 0.01
IC7105 : LC6543H-3600
1 PE3(RESET)
2 VDD
3 PF0/SI(SI)
4 PF1/SO(SO)
5 PF2/SCK(SCLK)
6 PF3/INT(RF-SW P.)
7 PG0(KEY 0)
8 PG1(KEY 1)
9 PG2(KEY 2)
10 PG3(KEY 3)
11 PA0(KEY 4)
12 PA1(LP-INH.OPT.)
13 PA2(SP/LP)
14 PA3(I/F BUSY)
15 PI0/OSC2
I/F
30 (CH-SCAN OK)PE2
29 (FAW)PE1
28 (BGS)PE0
27 (MODE3)PD3
26 (MODE2)PD2
25 (MODE1)PD1
24 (MODE0)PD0
23 (RF-SW P.)PC3
22 (CSE)PC2
21 (F.ADV P.)PC1
20 (CH SCAN)PC0
19 RES
18 VSS
17 TEST
16 OSC1
R7122 1K
R7123 1K
R7124 1K
R7125 1K
R7126 1K
R7127 1K
R7128 1K
R7129 1K
R7130 1K
R7131 1K
R7132 1K
R7133 1K
R7142 1K
R7141 1K
R7140 1K
R7139 1K
R7138 1K
R7137 1K
R7136 1K
R7143 1K
R7144 1K
C7130 0.01
X7103 4MHz
C7127 33P
C7128 33P
CN7102
1 XVS
2 BGS
3 FAW
4 G.OUT
5 S.IN
6 S.CLK
7 GND
8 BUSY
9 RESET
10 CH SCAN E
11 CH SCAN H
TO DM-1 CN8003
CN7104
8 DIGITAL D0
7 DIGITAL D1
6 DIGITAL D2
5 DIGITAL D3
4 DIGITAL D4
3 CH SCAN OK
2 GND
1 ALWAYS 5V
TO TM-4 CN7411
CN7103
1 MODE 0
2 MODE 1
3 MODE 2
4 MODE 3
5 F.ADV P.
6 SP/LP
7 RF SW P
8 RESET
9 XVS
TO SY-1 CN3004
DIGITAL CIRCUIT

P.C.B. TM-1 VPS & DIGITAL (



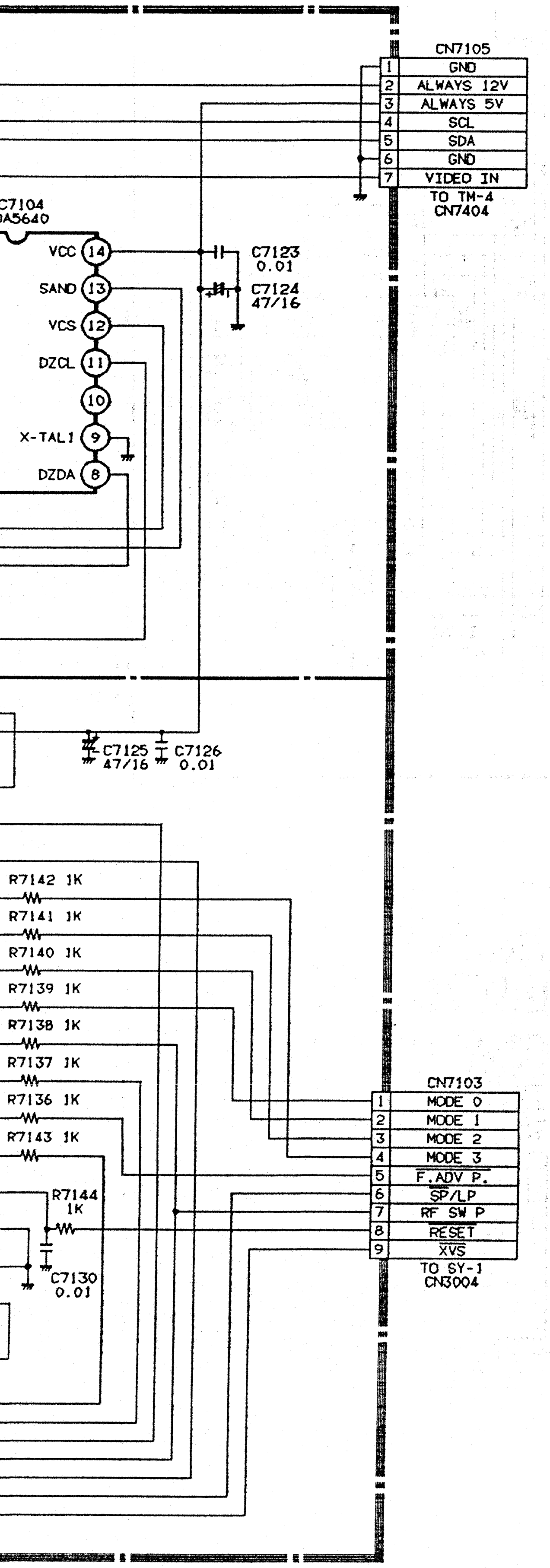
JCI-AUH
CN3
CN2
CN4
CN6
IC3
IC4
IC5
X3
DIGITAL
VPS

P.C.B. TB-1 TERMINAL BOAR

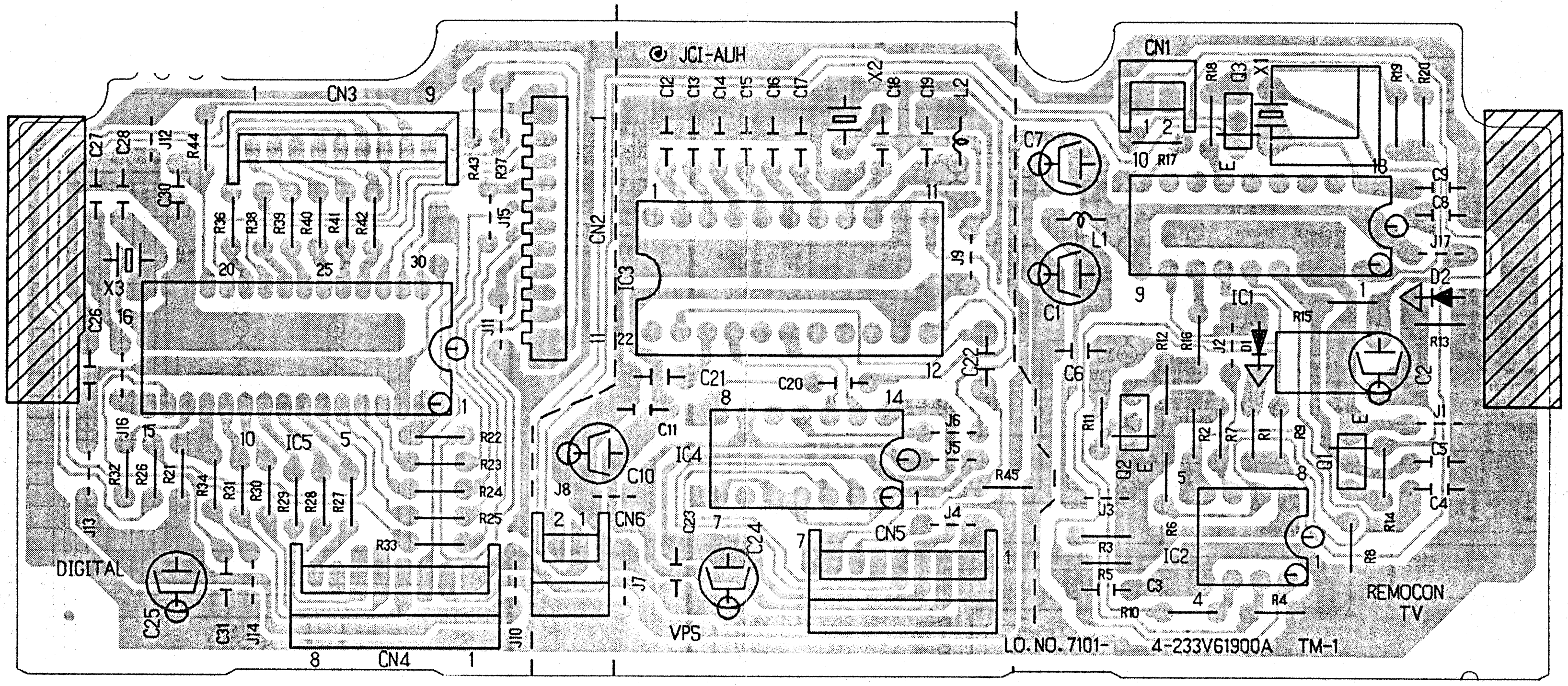


CN8001
1 G N D
TO VD-1 CN1502
CN8002
1 AD LCH IN
2 AD RCH IN
3 G N D
4 G N D
5 AD LCH OUT
6 AD RCH OUT
TO VD-1 CN1503
CN8011
1 AD LCH IN
2 G N D
3 AD RCH IN
TO AD-1 CN2012
L8006
L8005
C8008 470P
C8007 470P
C8009 470P
C8010 470P
R8003 680
R8001 680
R8006 680
R8005 680
C8004 470P
C8003 470P
L8004
L8003
L8001
L8002
C8001 470P
C8002 470P
C8005 470P
C8006 470P
CN8008 LCH AD OUT
CN8007 RCH AD OUT
CN8006 LCH AD IN
CN8005 RCH AD IN
CN8012
1 RCA LCH OUT
2 RCA RCH OUT
3 G N D
4 G N D
5 21PIN LCH OUT
6 21PIN RCH OUT
TO AD-1 CN2001

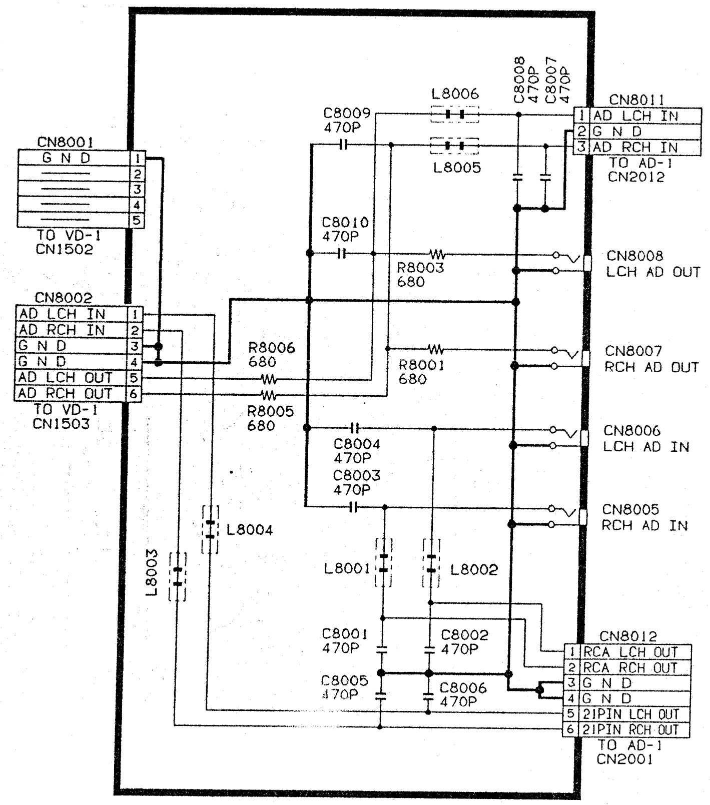
43-0-233V-61900)
143-0-233V-61923)

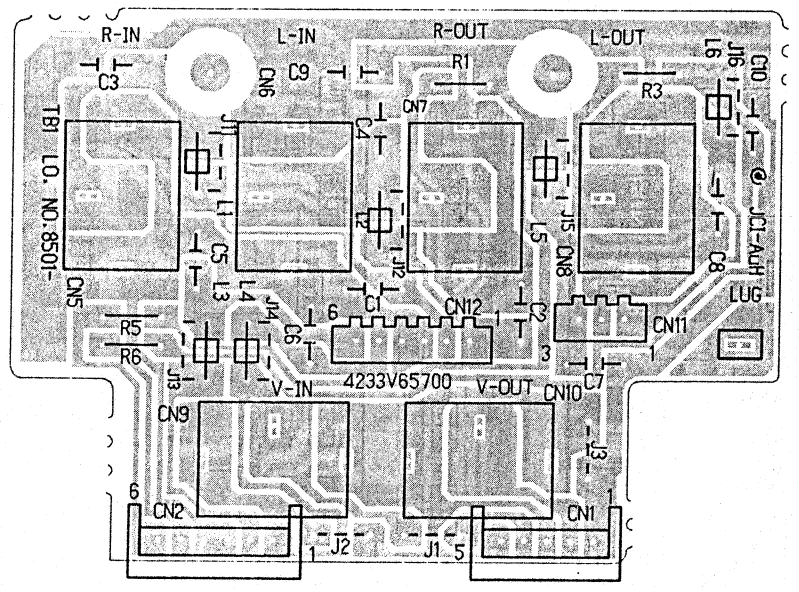

CN7105
1 GND
2 ALWAYS 12V
3 ALWAYS 5V
4 SCL
5 SDA
6 GND
7 VIDEO IN
TO TM-4
CN7404
C7104
A5640
VCC 14
SAND 13
VCS 12
DZCL 11
10
X-TAL1 9
DZDA 8
C7123
0.01
C7124
47/16
C7125
47/16
C7126
0.01
R7142 1K
R7141 1K
R7140 1K
R7139 1K
R7138 1K
R7137 1K
R7136 1K
R7143 1K
R7144
1K
C7130
0.01
CN7103
1 MODE 0
2 MODE 1
3 MODE 2
4 MODE 3
5 F.ADV P.
6 SP/LP
7 RF SW P
8 RESET
9 XVS
TO SY-1
CN3004

P.C.B. TM-1 VPS & DIGITAL (VHR-D700G 143-0-233V-61900)
(VHR-D700EX 143-0-233V-61923)


JCI-AUH
CN3
CN2
CN1
CN4
CN5
CN6
IC1
IC2
IC3
IC4
IC5
X1
X2
X3
DIGITAL
VPS
REMOCON
TV
LO. NO. 7101-
4-233V61900A TM-1

P.C.B. TB-1 TERMINAL BOARD (143-0-233V-65700)


CN8001
GND
TO VD-1
CN1502
CN8002
1 AD LCH IN
2 AD RCH IN
3 GND
4 GND
5 AD LCH OUT
6 AD RCH OUT
TO VD-1
CN1503
CN8011
1 AD LCH IN
2 GND
3 AD RCH IN
TO AD-1
CN2012
L8006
L8005
C8009
470P
C8010
470P
C8008
470P
C8007
470P
R8003
680
R8006
680
R8001
680
R8005
680
C8004
470P
C8003
470P
L8004
L8003
L8001
L8002
C8001
470P
C8002
470P
C8005
470P
C8006
470P
CN8008
LCH AD OUT
CN8007
RCH AD OUT
CN8006
LCH AD IN
CN8005
RCH AD IN
CN8012
1 RCA LCH OUT
2 RCA RCH OUT
3 GND
4 GND
5 21PIN LCH OUT
6 21PIN RCH OUT
TO AD-1
CN2001


R-IN
L-IN
R-OUT
L-OUT
V-IN
V-OUT
TB1 LO. NO. 8501-
4233V65700
JCI-AUH
LUG
CN1
CN2
CN5
CN6
CN7
CN8
CN9
CN10
CN11
CN12

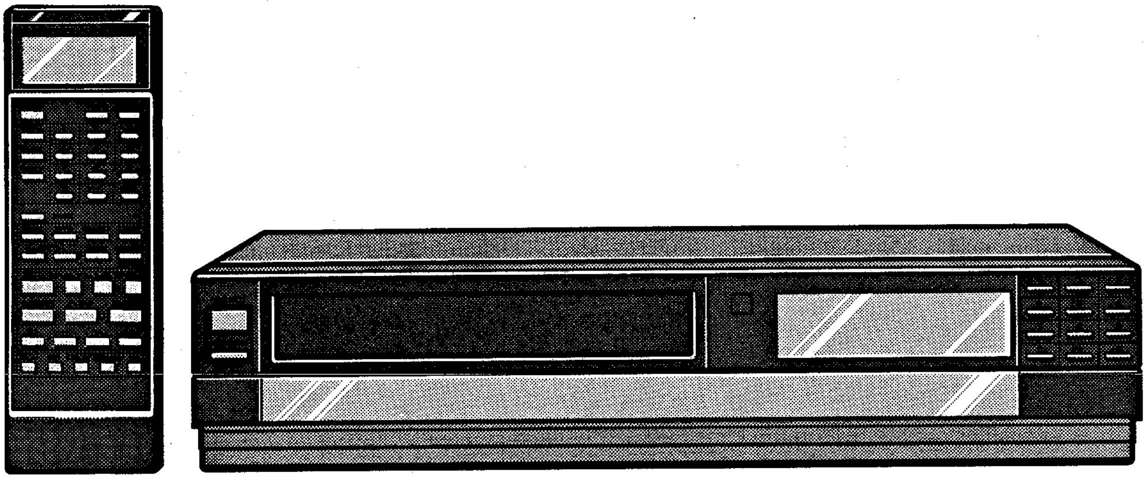
VHR-D700EX
VHR-D700G

SANYO

Service Manual

Colour Video Cassette Recorder

VHR-D700 Series



VHS PAL HQ Hi-Fi
DIGITAL

Table of Contents

1. Location of the Main Boards 1
2. Electrical Adjustments 2
  2-1. Preparations 2
  2-2. Servo Circuit Adjustment 2
  2-3. Video Circuit Adjustment 3
  2-4. Video Digital Process Circuit Adjustment 4
  2-5. Audio Circuit Adjustment 7
  2-6. Tuner IF & Multiplex Decoder Circuit Adjustment 9
  2-7. Test Point and Adjustment Location 9

BP2DHF Series

REFERENCE NO. WM-21752

1. LOCATION OF THE MAIN BOARDS

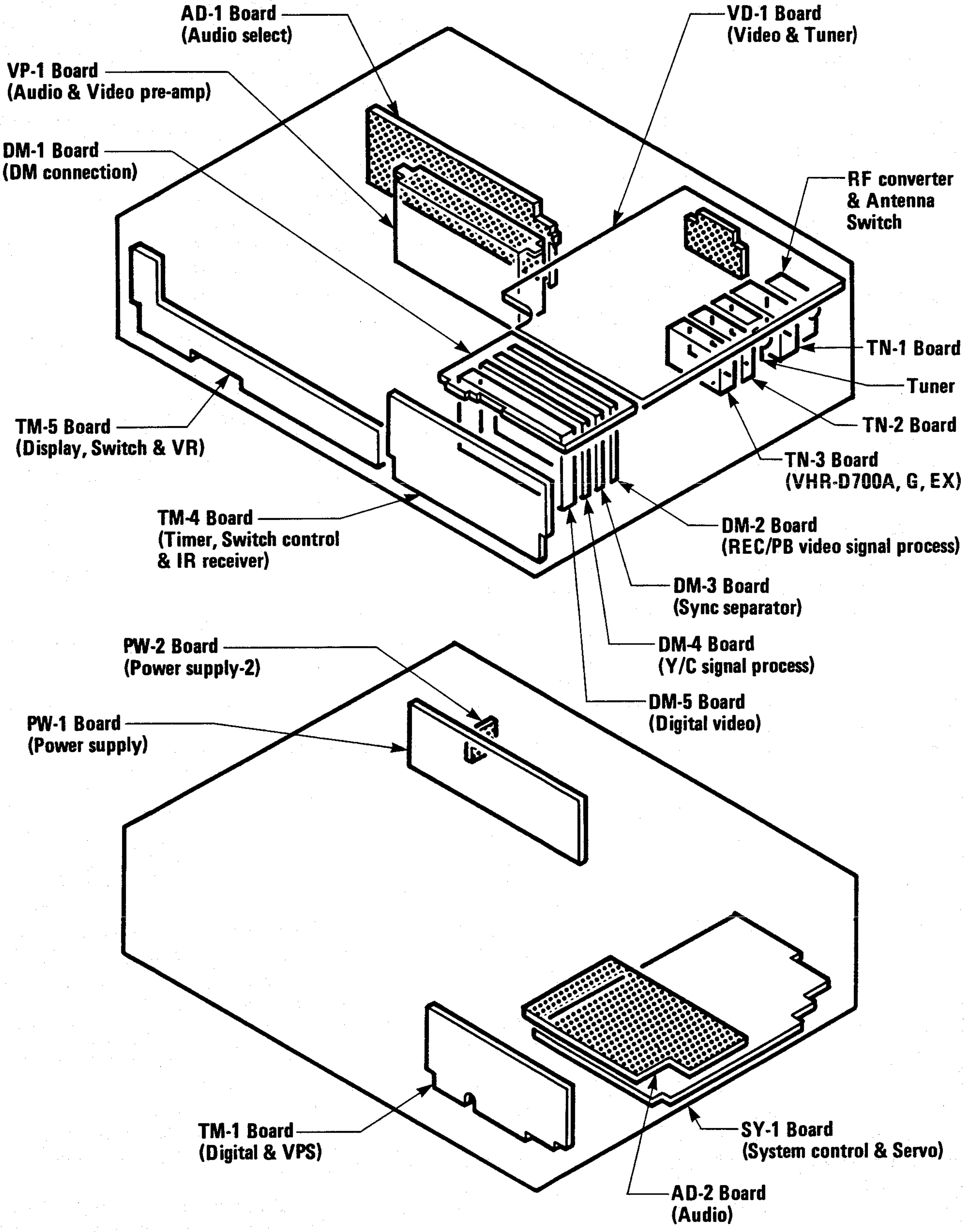

AD-1 Board
(Audio select)
VD-1 Board
(Video & Tuner)
VP-1 Board
(Audio & Video pre-amp)
DM-1 Board
(DM connection)
RF converter
& Antenna
Switch
TN-1 Board
Tuner
TN-2 Board
TM-5 Board
(Display, Switch & VR)
TN-3 Board
(VHR-D700A, G, EX)
TM-4 Board
(Timer, Switch control
& IR receiver)
DM-2 Board
(REC/PB video signal process)
DM-3 Board
(Sync separator)
PW-2 Board
(Power supply-2)
DM-4 Board
(Y/C signal process)
DM-5 Board
(Digital video)
PW-1 Board
(Power supply)
TM-1 Board
(Digital & VPS)
SY-1 Board
(System control & Servo)
AD-2 Board
(Audio)

Fig. 1-1

2. ELECTRICAL ADJUSTMENTS

2-1. PREPARATIONS

2-1-1. EQUIPMENT

- Colour TV monitor
- Colour-bar generator (with RF and LINE OUTPUT)
- Audio frequency oscillator
- Attenuator
- Oscilloscope (dual trace; frequency response: 10MHz or more; probe: 10:1)
- Frequency counter (countable to 10MHz or higher)
- Digital voltmeter
- Alignment cassette (VHJ-0008) Colour bar 1KHz
- Alignment cassette (VHJ-0009) Monoscope 6KHz
- Alignment cassette (VHJ-0020) Colour-bar Normal 1KHz, Stereo 33% DEV 1KHz
- Alignment cassette (VHJ-0023) PAL Monoscope 6KHz, PAL Colour-bar 1KHz, SECAM Colour-bar 1KHz, PAL RF Sweep, MESECAM Colour-bar 1KHz, NTSC Colour-bar 1KHz.
- AC voltmeter
- In/output probes
- Audio MPX TV signal generator

2-1-2. SET-UP

Because the RF input signal is used for adjustment of circuits, connect the colour-bar generator to the ANT IN terminal of the VCR. The RF input signal is processed by the tuner and IF circuit. It is important that the video output signal of the IF circuit satisfy the items shown in figure. Connect the oscilloscope to the VIDEO OUTPUT terminal of the video circuit, and then check the video output signal.

- The amplitude of the sync signal should be approximately 0.3Vp-p.
- The amplitude of the video signal should be approximately 0.7Vp-p.
- While observing the oscilloscope or TV screen, make fine-tuning adjustments so that the colour burst amplitude is approximately 0.3Vp-p.
- Check to be sure that there is no spike noise in the sync part of the horizontal sync signal.

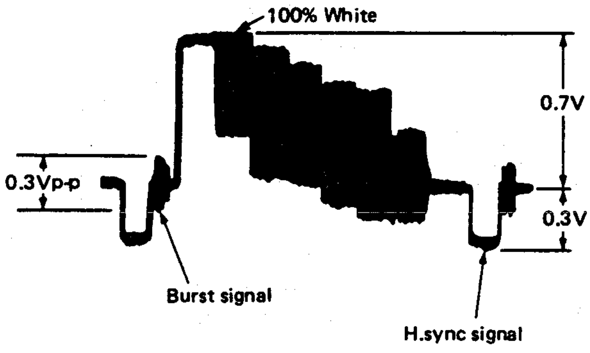
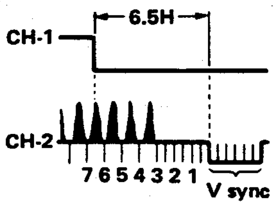
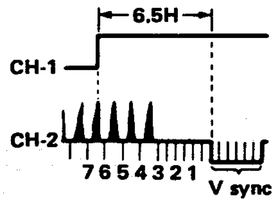
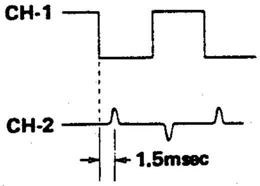
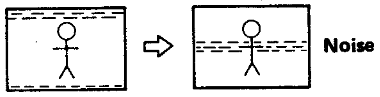
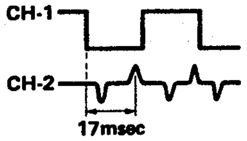


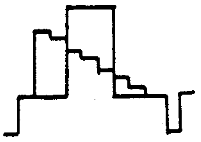
Fig. 2-1-1

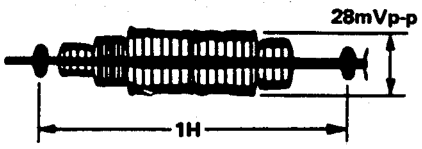
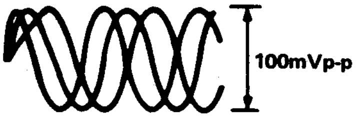
2-2. SERVO CIRCUIT ADJUSTMENT ... SY-1 Board

No.	Item	Input	Mode	Point	Location	Remark
1	CH-1 SWITCHING POSITION	Alignment cassette (VHJ-0009 or VHJ-0023)	PLAY	TP1001 (VIDEO OUT terminal) CN4008 ① (trigger)	SVR4001	 Adjust SVR4001 so that the phase of the leading edge of the vertical sync signal is delayed 6.5 ±0.5H from the fall of the CH-1 waveform.
2	CH-2 SWITCHING POSITION	Alignment cassette (VHJ-0009 or VHJ-0023)	PLAY	TP1001 (VIDEO OUT terminal) CN4008 ① (trigger)	SVR4002	 Adjust SVR4002 so that the phase of the leading edge of the vertical sync signal is delayed 6.5 ±0.5H from the fall of the CH-1 waveform.

No.	Item	Input	Mode	Point	Location	Remark
3	TRACKING	Any TV broadcast	REC ⬇ PLAY	CN4008 ④ CN4008 ① (trigger)	SVR4003	 1. Playback the recorded portion, and set the normal tracking control to the center click position. 2. Adjust SVR4003 so that the phase of the CH-2 waveform is 1.5 ±0.5msec after the fall of the CH-1 waveform. In this instance, delay the CH-2 waveform.
4	SLOW TRACKING	Any TV broadcast	REC ⬇ PLAY ⬇ SLOW	TV screen	SVR4005	 1. Connect a lead wire between TP8001 (DM-1 board) and ground. 2. Playback the recorded portion, and put the VCR in the SLOW mode. Then set the slow tracking control to the center position. 3. Adjust SVR4005 so that the noise appears at the center position on the TV screen. 4. Remove a lead wire.
5	X 2 PLAYBACK	Any TV broadcast	REC ⬇ PLAY ⬇ X 2	CN4008 ④ CN4008 ① (trigger)	SVR4006	 1. Playback the recorded portion, and put the VCR in the X2 playback mode. Then set the normal tracking control to the center position. 2. Adjust SVR4006 so that the phase of the CH-2 waveform is 17 ±1msec after the fall or rise of the CH-1 waveform. In this instance, delay the CH-2 waveform.

2-3. VIDEO CIRCUIT ADJUSTMENT ... VD-1 Board

No.	Item	Input	Mode	Point	Location	Remark
1	VXO	Brank tape	PLAY	TP1006	SVR1202	Adjust SVR1202 so that the frequency is 4433619 ±20Hz.
2	CCD LEVEL	Colour bar from Colour bar generator	E-E	TP1003 TP1004	SVR1102	 Adjust SVR1102 so that the same level of TP1003 and TP1004 waveforms.

No.	Item	Input	Mode	Point	Location	Remark
3	CHRO-MINANCE SIGNAL RECORDING CURRENT	Colour-bar from Colour bar generator	REC	CN1603 ③ (GND) CN1603 ① (HOT)	SVR1201	 1. Turn SVR1001 all the way to the left looking from the parts side. 2. Adjust SVR1201 so that the level is 28 ±2mVp-p.
4	LUMINANCE SIGNAL RECORDING CURRENT	S/W signal from Colour bar generator	REC	CN1603 ③ (GND) CN1603 ① (HOT)	SVR1001	 Adjust SVR1001 so that the level is 100 ±5mVp-p.
5	VIDEO INPUT LEVEL	Colour-bar from Colour-bar generator	E-E	TP1001 TP1012	SVR1502	Adjust SVR1502 so that the same level of TP1001 and TP1012 waveforms.

2-4. VIDEO DIGITAL PROCESS CIRCUIT ADJUSTMENT ... DM-2, 3, 4 Board

The digital process circuit boards are installed in the unit on the right side in five parts. The inner circuit boards cannot be adjusted without first removing the DM-2 & DM-3 circuit boards. When making an adjustment, therefore, use the jigs (VHJ-0037, VHJ-0038, VHJ-0039, VHJ-0040) for making the connection between them. (See Fig. 2-4-1)

(Caution)
Each jigs should be soldered on DM-1 board.

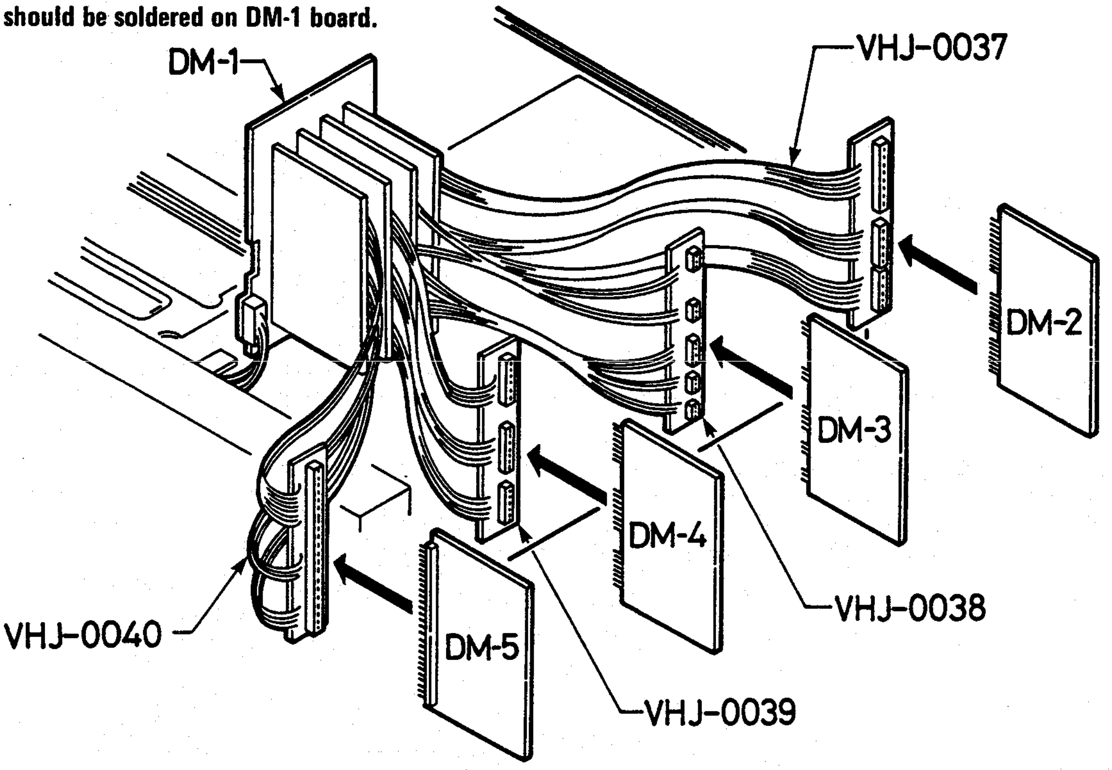
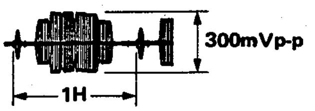
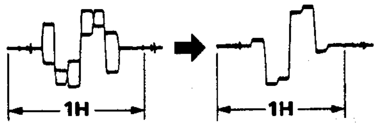
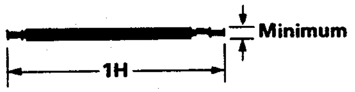
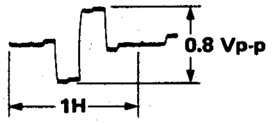
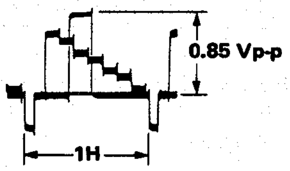
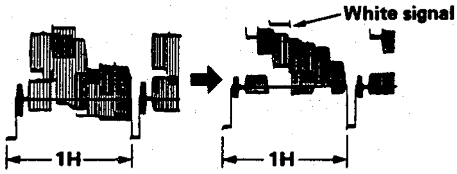
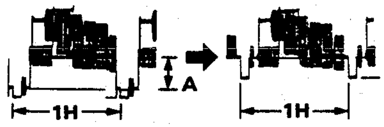
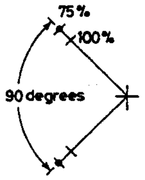


Fig. 2-4-1 Method of using jigs

NOTE: (1) No signal E-E mode is do not supply any signal to the VIDEO INPUT terminal (CN1501 ⑲).
(2) Adjustment No. 8 is unnecessary for the new DM-4 board (P.C.B. No. 4 233V 63950A~).
(3) Adjustment No. 9 is unnecessary for the old DM-4 board (P.C.B. No. 4 233V 63950).

No.	Item	Input	Mode	Point	Location	Remark
1	AFC (1) V•OSC	No signal	E-E	TP8204	SVR8203 (DM-3 board)	Adjust SVR8203 so that the frequency is 46 ±1Hz.
2	AFC (1) H•OSC	No signal	E-E	TP8203	SVR8204 (DM-3 board)	Adjust SVR8204 so that the frequency is 15625 ±50Hz.
3	AFC (2) V•OSC	No signal	E-E	TP8202	SVR8201 (DM-3 board)	Adjust SVR8201 so that the frequency is 46 ±1Hz.
4	AFC (2) H•OSC	No signal	E-E	TP8201	SVR8202 (DM-3 board)	Adjust SVR8202 so that the frequency is 15625 ±50Hz.
5	MAIN DECODER VXO	Colour-bar from Colour-bar generator	E-E	IC8302 ⑲	CT8302 (DM-4 board)	1. Connect a lead wire between pin 5 of IC8302 and ground. 2. Adjust CT8302 so that the frequency is 4433618 ±20Hz. 3. Remove a lead wire
6	MAIN DECODER ACC	Colour-bar from Colour-bar generator	E-E	IC8302 ③	SVR8303 (DM-4 board)	 Adjust SVR8303 so that the level is 300 ±15mVp-p.
7	SUB DECODER VXO	Colour-bar from Colour-bar generator	E-E	IC8301 ⑲	CT8301 (DM-4 board)	1. Connect a lead wire between pin 5 of IC8301 and ground. 2. Adjust CT8301 so that the frequency is 4433618Hz ±20Hz. 3. Remove a lead wire from DM-4 board.
8	NOTE (2) SUB DECODER TINT	Colour-bar from Colour-bar generator	E-E	CN8301 ⑥	SVR8302 (DM-4 board)	 1. Turn SVR8301 to the center position. 2. Adjust SVR8302 so that the waveform is merged together to becomes as one.
9	NOTE (3) SUB DECODER B-Y/R-Y SEPARATION GAIN	B-Y signal from Modulated chroma generator	E-E	IC8301 ③ ⑰	SVR8302 (DM-4 board)	 1. Turn SVR8301 all the way to the left 2. Adjust SVR8302 so that the B-Y leakage is minimum.
10	SUB DECODER ACC LEVEL	Colour-bar from Colour-bar generator	E-E	CN8301 ⑥	SVR8301 (DM-4 board)	 Adjust SVR8301 so that the R-Y level is 0.8 ±0.05Vp-p.

No.	Item	Input	Mode	Point	Location	Remark
11	SUB LUMINANCE LEVEL (1)	Colour-bar from Colour-bar generator	E-E	CN8101 ②	SVR8101 (DM-2 board)	 Adjust SVR8101 so that the luminance level is 0.85 ±0.02Vp-p.
12	ENCODER CARRIER LEAK	Colour-bar from Colour-bar generator	E-E ⬇ MEMORY STILL	IC8105 ⑭	SVR8103 SVR8105 (DM-2 board)	 1. Put the VCR in the E-E mode, then press the MEMORY button. 2. Adjust SVR8103 and SVR8105 so that the white signal carrier leakage is minimum.
13	SET UP LEVEL	Colour-bar from Colour-bar generator	E-E ⬇ MEMORY STILL	IC8105 ⑭	SVR8107 (DM-2 board)	 1. Put the VCR in the E-E mode, then press the MEMORY button. 2. Adjust SVR8107 until "A" portion in the waveform become zero.
14	BURST FLAG PULSE	Colour-bar from Colour-bar generator	E-E ⬇ MEMORY STILL	VIDEO OUTPUT terminal	SVR8104 SVR8106 (DM-2 board)	 1. The video output terminal of the vectorscope should be terminated at 75ohms. 2. Put the VCR in the E-E mode. 3. Set the vectorscope's GAIN in "75% STD", and vector display in "BOTH" modes. Adjust the vectorscope's "GAIN control" so that the burst spot is located at the 75% specified scale. 4. Put the VCR in the MEMORY STILL mode. 5. Adjust SVR8104 to obtain 90 degrees of burst phase. 6. Adjust SVR8106 so that the burst spot is located at the 75% specified scale.

2-5. AUDIO CIRCUIT ADJUSTMENT

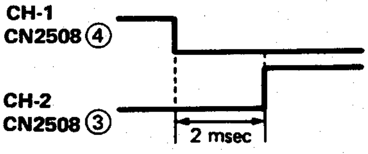
(SETTING BEFORE ADJUSTMENT)

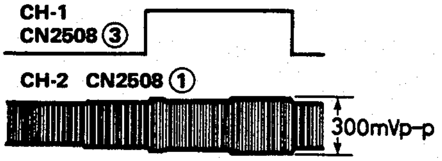
- The audio output terminal of the audio frequency oscillator should be terminated at 600 ohms.
- The audio output terminal of the VCR should be terminated at 47 killo ohms (L ch and R ch).
- TU/AV/SC button .... [SC] position
- TAPE SPEED select switch .... [SP] position
- TRACKING control .... Center (click stop) position
- AUDIO select (STEREO/A/B) switch .... [ST] position
- AUDIO select (NORMAL/Hi-Fi) switch .... [Hi-Fi] position
- LEVEL METER select switch .... [AUDIO LEVEL] position
- AUDIO REC LEVEL control (L ch and R ch) .... Center (click stop) position

AUDIO FM CIRCUIT ADJUSTMENT ... AD-1 Board & AD-2 Board

NOTE (1): The AUDIO FM section adjustment has separate adjustment items for the L ch and R ch.
The R ch adjustments are included in parentheses.

(2): No-signal record mode is do not supply any signal to the audio in terminal.

No.	Item	Input	Mode	Point	Location	Remark
1	E-E AUDIO OUTPUT LEVEL BALANCE	Audio signal (1KHz, −7dBm from Audio frequency oscillator	E-E	Audio output terminal	SVR2201 (AD-1 board)	Adjust SVR2201 so that the audio output level is −7dBs ± 0.5 dBs.
2	AUDIO LEVEL METER	Audio signal (1KHz, −7dBm) from Audio frequency oscillator	E-E	Audio output terminal	SVR2001 (L ch) SVR2101 (R ch) (AD-1 board)	1. Connect a jump wire between TP7001 and TP7002 (TM-5 Board). 2. Set the LEVEL METER select switch to the AUDIO LEVEL position. 3. Connect an audio frequency oscillator to the audio input terminals and set for an oscillation output of −7dBs 1KHz sine wave. 4. Connect an AC voltmeter to audio output terminals. 5. Set the AUDIO REC LEVEL control (L ch and R ch) so that the output level is −7dBs. 6. Adjust SVR2001 (SVR2101) so that the "−4dB" LEDs illuminate. 7. Set the audio REC LEVEL control (L ch and R ch) so that the VCR output level is −7.5dBm. 8. Adjust SVR2001 (SVR2101) so that the "−4dB" LEDs goes out. 9. Remove a jump wire from TM-5 Board.
3	AF SWITCHING PULSE	Alignment cassette (VHJ-0020)	PLAY	CN2508③ CN2508④ (trigger)	SVR2601 (AD-2 board)	 Adjust SVR2601 so that the phase of the CH-2 waveform is 2 ±0.1 msec after the fall of the CH-1 waveform. In this instance, delay the CH-2 waveform.

No.	Item	Input	Mode	Test Point	Location	Remark
4	AF CARRIER FREQUENCY	None	E-E	TP2601 (L ch) TP2602 (R ch)	SVR2606 (L ch) SVR2607 (R ch) (AD-2 board)	1. Connect a frequency counter to TP2601 (TP2602). 2. Adjust SVR2606 (SVR2607) so that the carrier frequency is 1.4 MHz (1.8 MHz) ±5 KHz.
5	MUTE LEVEL	Alignment cassette (VHJ-0020)	PLAY	CN2508① CN2508③ (trigger)	SVR2602 (AD-2 board)	 1. Set the tracking control to the best point. 2. Adjust SVR2602 so that the level is 300 ±30 mVp-p.
6	PLAYBACK AUDIO OUTPUT LEVEL	Alignment cassette (VHJ-0020)	PLAY	Audio output terminal	SVR2603 (L ch) SVR2604 (R ch) (AD-2 board)	Adjust SVR2603 (SVR2604) so that the playback audio output level is –7 ±1 dBs.
7	DEVIATION	Audio signal (1KHz, –7dBm from Audio frequency oscillator	REC ⬇ PLAY	Audio output terminal	SVR2608 (L ch) SVR2605 (R ch) (AD-2 board)	1. Connect an audio frequency oscillator to the audio input terminals, and set for an oscillation output of –7dBm 1KHz sine wave. 2. Connect an AC voltmeter to the audio output terminals. 3. Set the Audio REC LEVEL control (L ch and R ch) so that the VCR output level is –7dBs. 4. Adjust SVR2608 (SVR2605) before recording, so that the VCR output level becomes –7 ±1.5 dBs when playback.

NORMAL AUDIO CIRCUIT ADJUSTMENT ... AD-2 Board

NOTE (1): No-signal record mode is do not supply any signal to the AUDIO INPUT terminal or CN1501 ② ⑥.

No.	Item	Input	Mode	Point	Location	Remark
1	BIAS	None	REC	CN2503 ① ②(GND)	SVR2502	1. Set the input selector to the "AUX" position and put the VCR in the no-signal record mode. 2. Adjust SVR2502 so that the level is 27mV rms.
2	PLAYBACK OUTPUT LEVEL	Audio signal (1 KHz, –3.8 dBs) from Audio frequency oscillator	REC ⬇ PLAY	AUDIO OUT terminal	SVR2501	Adjust SVR2501 so that the recorded 1 KHz output level becomes –3.8 dBs in the PLAY mode.

2-6. TUNER IF & MULTIPLEX DECODER CIRCUIT ADJUSTMENT ... TN-1 Board & TN-3 Board

NOTE: Adjustment No.1, No.2 & No.3 are unnecessary for the nomal tuner model.

No.	Item	Input	Mode	Point	Location	Remark
1	STEREO SEPARATION	Audio signal (R ch ... 1 KHz 100% mod. L ch ... 400Hz unmod.) from Audio MPX TV signal generator	E-E	Audio Output Terminal (L ch)	SVR6152 (TN-3 board)	1. Set the pilot signal for the stereo mode. With the L ch unmodulated, provide 1KHz 100% modulation on the R ch. 2. Connect an oscilloscope to the audio output terminal (L ch) and adjust SVR6080 for minimum waveform peak-to-peak value.
2	STEREO (117.5Hz)	TV broadcast (Stereo)	E-E	IC6150⑤	SVR6150 (TN-3 board)	1. Select the TV channel to stereo programme. 2. Adjust SVR6150 so that the waveform is maximize.
3	BILINGUL (274.1Hz)	TV broadcast (Bilingul)	E-E	IC6150⑥	SVR6151 (TN 3 board)	1. Select the TV channel to bilingul programme. 2. Adjust SVR6151 so that the waveform is maximize.
4	RF AGC	TV broadcast	E-E	TV screen	SVR6001 (TN 1 board)	Turn SVR6001 in the direction which causes snow to appear, then in the opposite direction until the snow just disappears.

2-7. TEST POINT AND ADJUSTMENT LOCATION

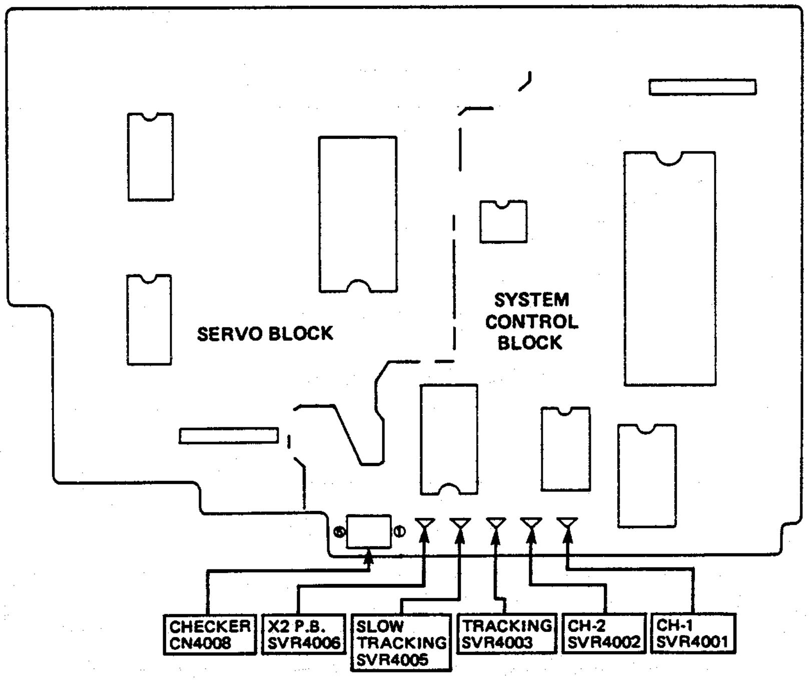

SERVO BLOCK
SYSTEM CONTROL BLOCK
CHECKER CN4008
X2 P.B. SVR4006
SLOW TRACKING SVR4005
TRACKING SVR4003
CH-2 SVR4002
CH-1 SVR4001

Fig. 2-7-1 SY-1 board (Foil side view)

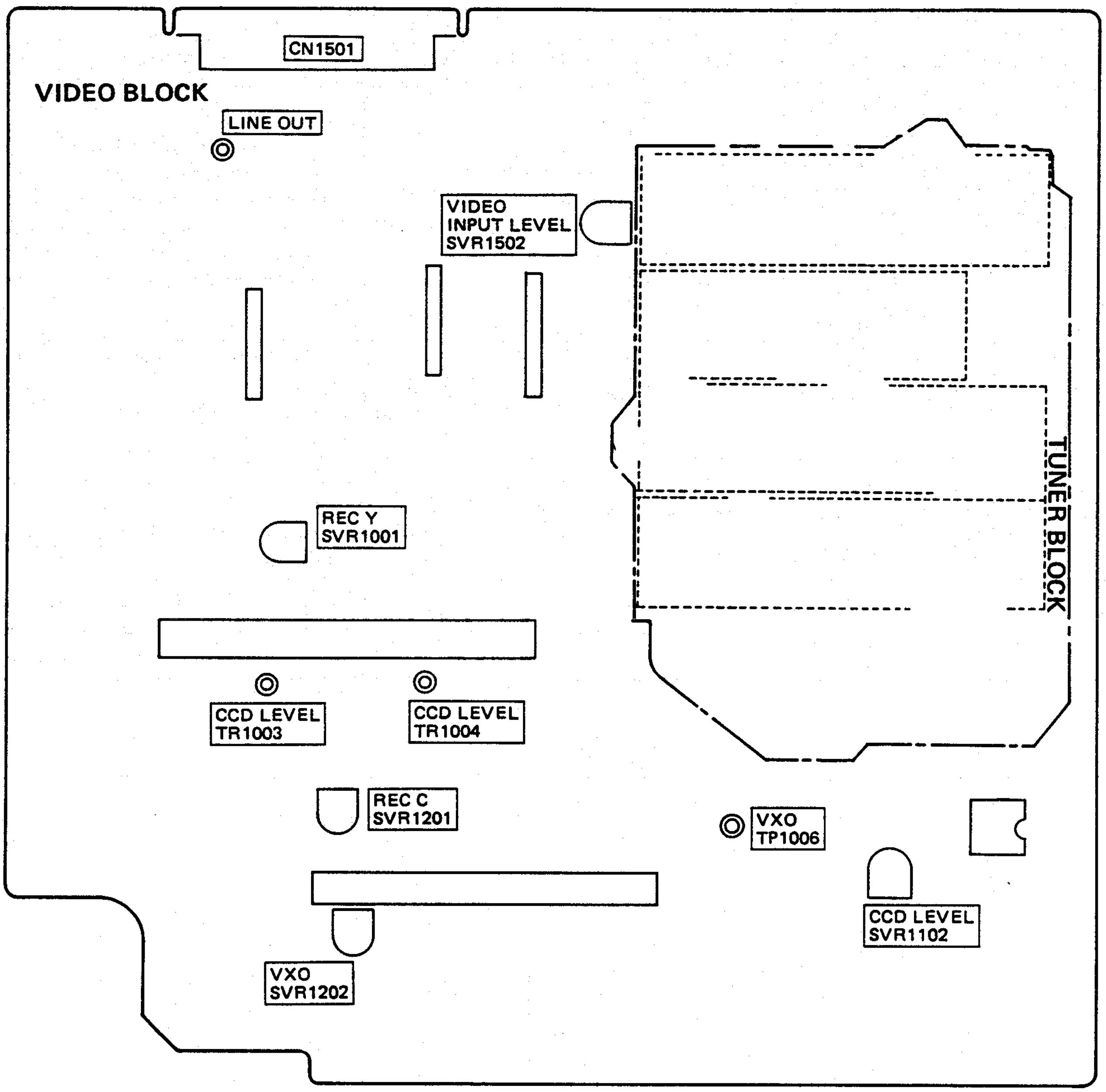

CN1501
VIDEO BLOCK
LINE OUT
VIDEO INPUT LEVEL SVR1502
TUNER BLOCK
REC Y SVR1001
CCD LEVEL TR1003
CCD LEVEL TR1004
REC C SVR1201
VXO TP1006
CCD LEVEL SVR1102
VXO SVR1202

Fig. 2-7-2 VD-1 board (Foil side view)

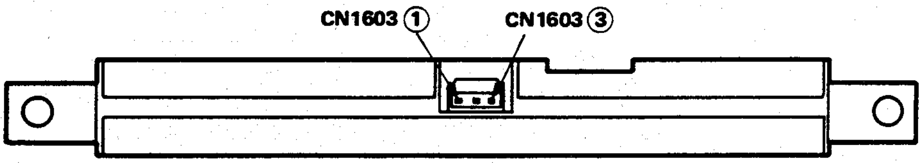

CN1603 ①
CN1603 ③

Fig. 2-7-3 VP-1 Board

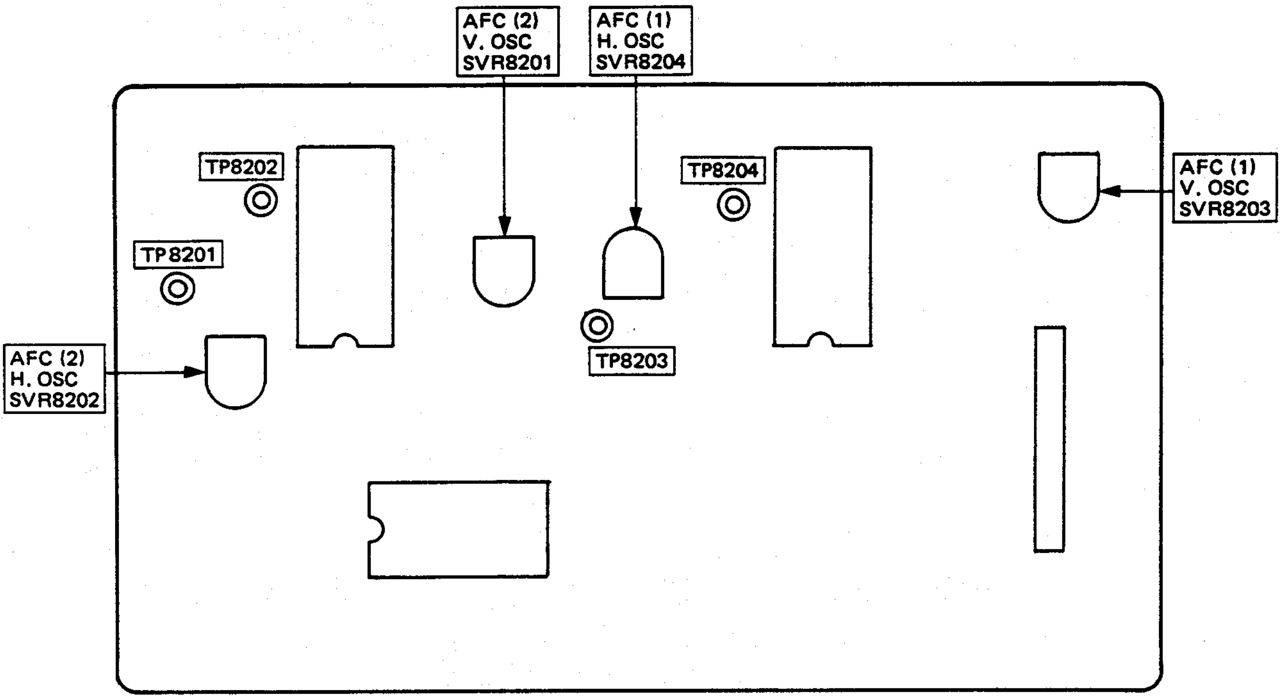

AFC (2)
V. OSC
SVR8201
AFC (1)
H. OSC
SVR8204
TP8202
TP8204
AFC (1)
V. OSC
SVR8203
TP8201
TP8203
AFC (2)
H. OSC
SVR8202

Fig. 2-7-4 DM-3 board (Foil side view)

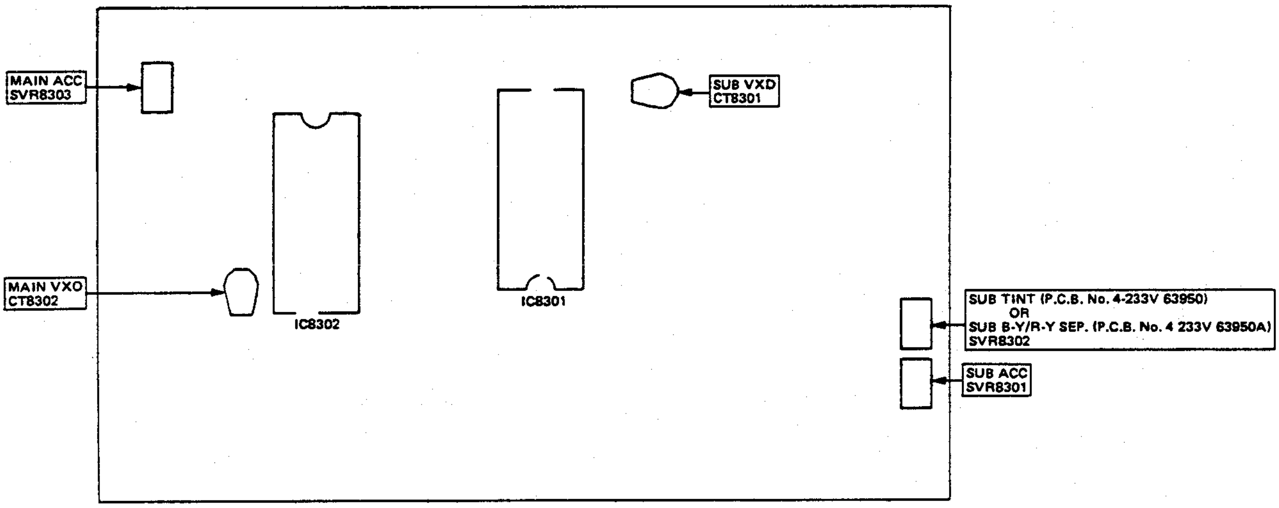

MAIN ACC
SVR8303
SUB VXD
CT8301
MAIN VXO
CT8302
IC8302
IC8301
SUB TINT (P.C.B. No. 4-233V 63950)
OR
SUB B-Y/R-Y SEP. (P.C.B. No. 4 233V 63950A)
SVR8302
SUB ACC
SVR8301

Fig. 2-7-5 DM-4 board (Parts side view)

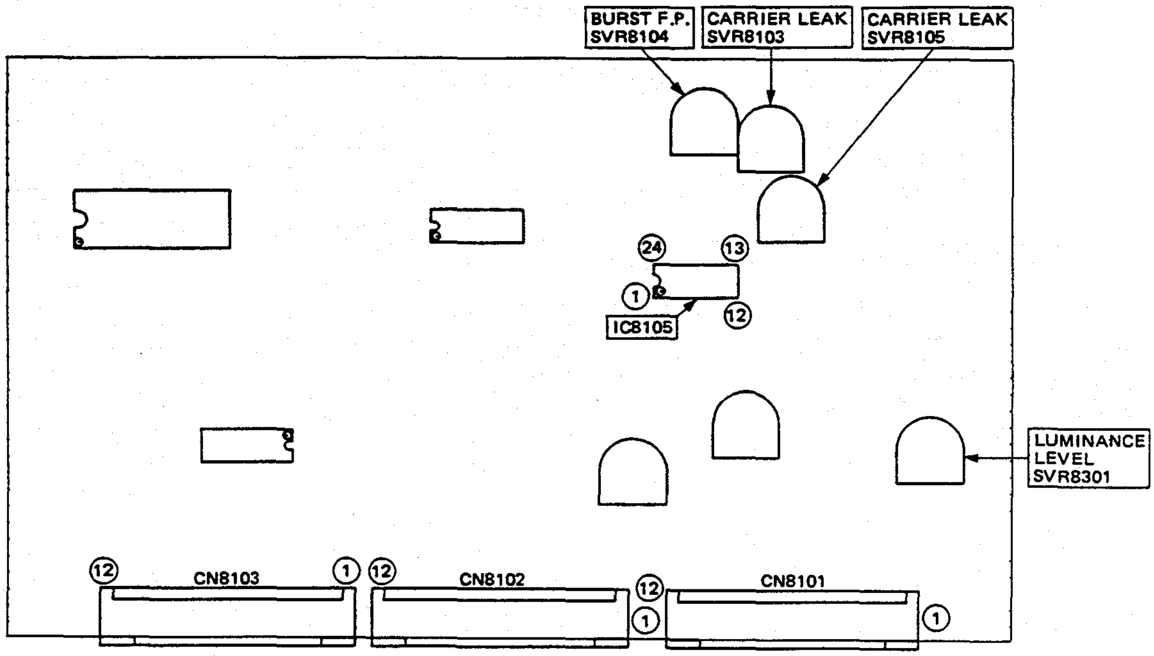

BURST F.P.
SVR8104
CARRIER LEAK
SVR8103
CARRIER LEAK
SVR8105
24
13
1
12
IC8105
LUMINANCE
LEVEL
SVR8301
12
CN8103
1
12
CN8102
12
1
CN8101
1

Fig. 2-7-6 DM-2 board (Side A)

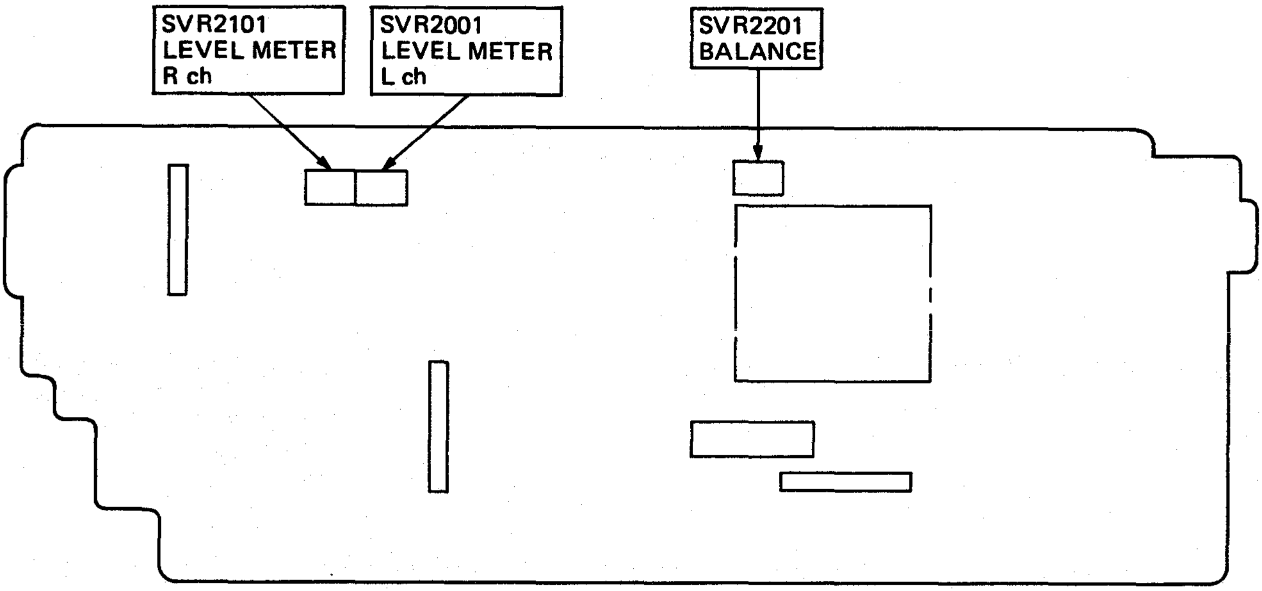

SVR2101
LEVEL METER
R ch
SVR2001
LEVEL METER
L ch
SVR2201
BALANCE

Fig. 2-7-7 AD-1 board (Parts side view)

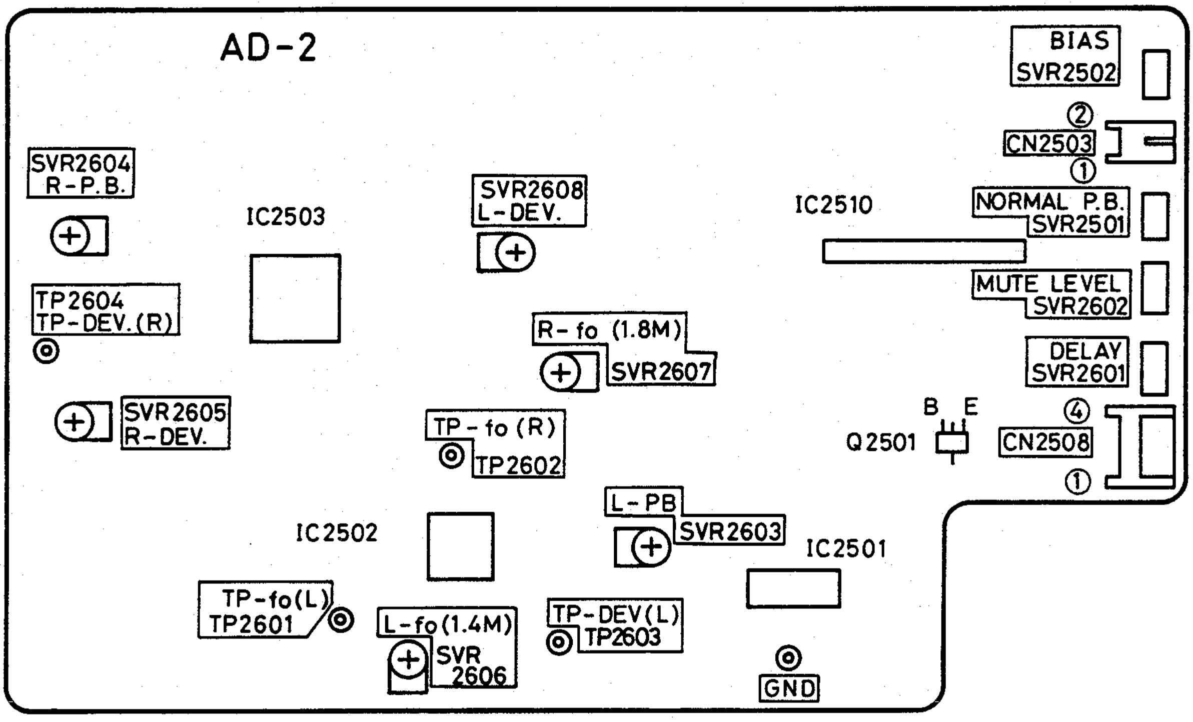

AD-2
BIAS
SVR2502
②
CN2503
①
SVR2604
R-P.B.
IC2503
SVR2608
L-DEV.
IC2510
NORMAL P.B.
SVR2501
MUTE LEVEL
SVR2602
TP2604
TP-DEV.(R)
R-fo (1.8M)
SVR2607
DELAY
SVR2601
SVR2605
R-DEV.
TP-fo (R)
TP2602
B E
Q2501
④
CN2508
①
L-PB
SVR2603
IC2502
IC2501
TP-fo(L)
TP2601
L-fo(1.4M)
SVR
2606
TP-DEV(L)
TP2603
GND

Fig. 2-7-8 AD-2 board

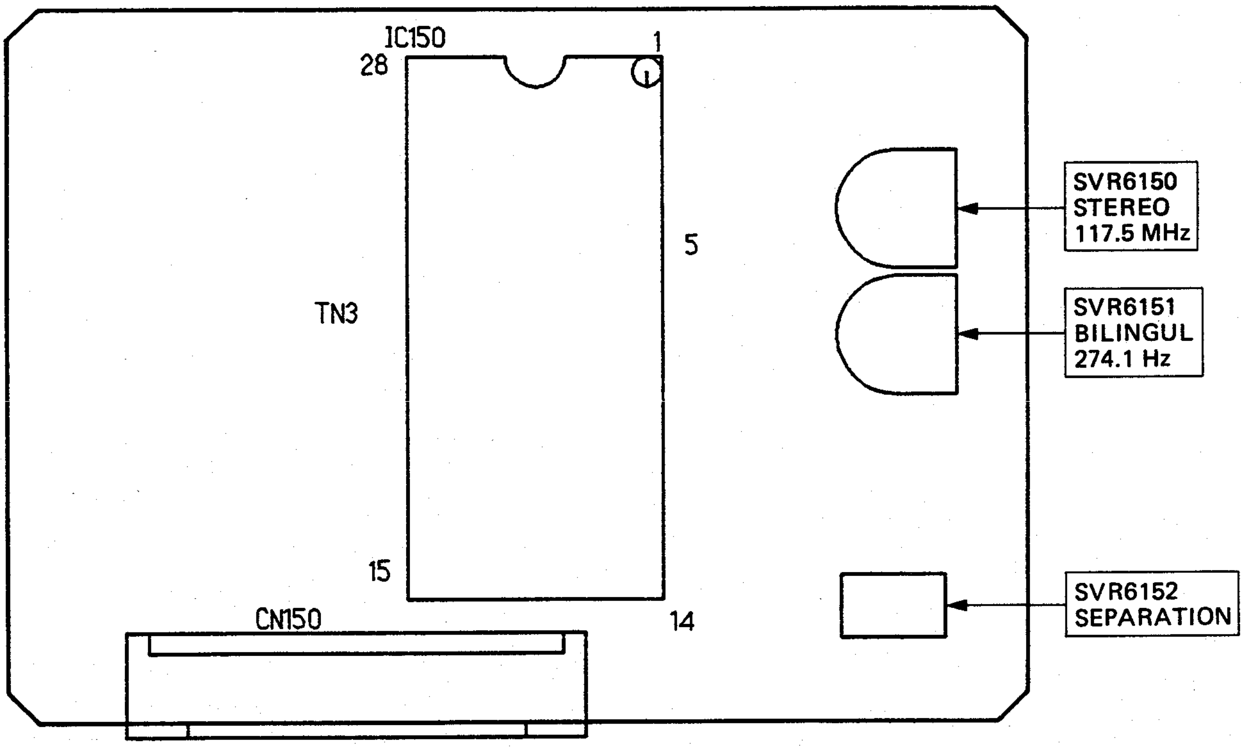

IC150
28
1
5
TN3
15
14
CN150
SVR6150
STEREO
117.5 MHz
SVR6151
BILINGUL
274.1 Hz
SVR6152
SEPARATION

Fig. 2-7-9 TN-3 board (Foil side view)

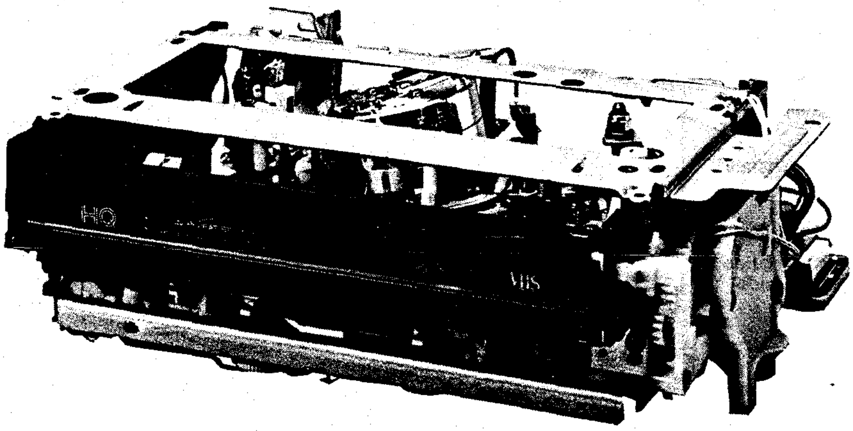
SERVICE MANUAL

SANYO

VHR-3300, 3500, 3700, 3800 Series

COLOUR VIDEO CASSETTE RECORDER

VHS PAL HQ



MECHANISM DESCRIPTION AND MECHANISM ADJUSTMENT

("PL" Mechanism)

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BP Mechanism

REFERENCE No. WM-19932

1. MECHANISM DESCRIPTION

1-1. IDENTIFICATION AND LOCATION OF MECHANISM MAIN COMPONENTS

(1) Mechanism Assembly (Top View)

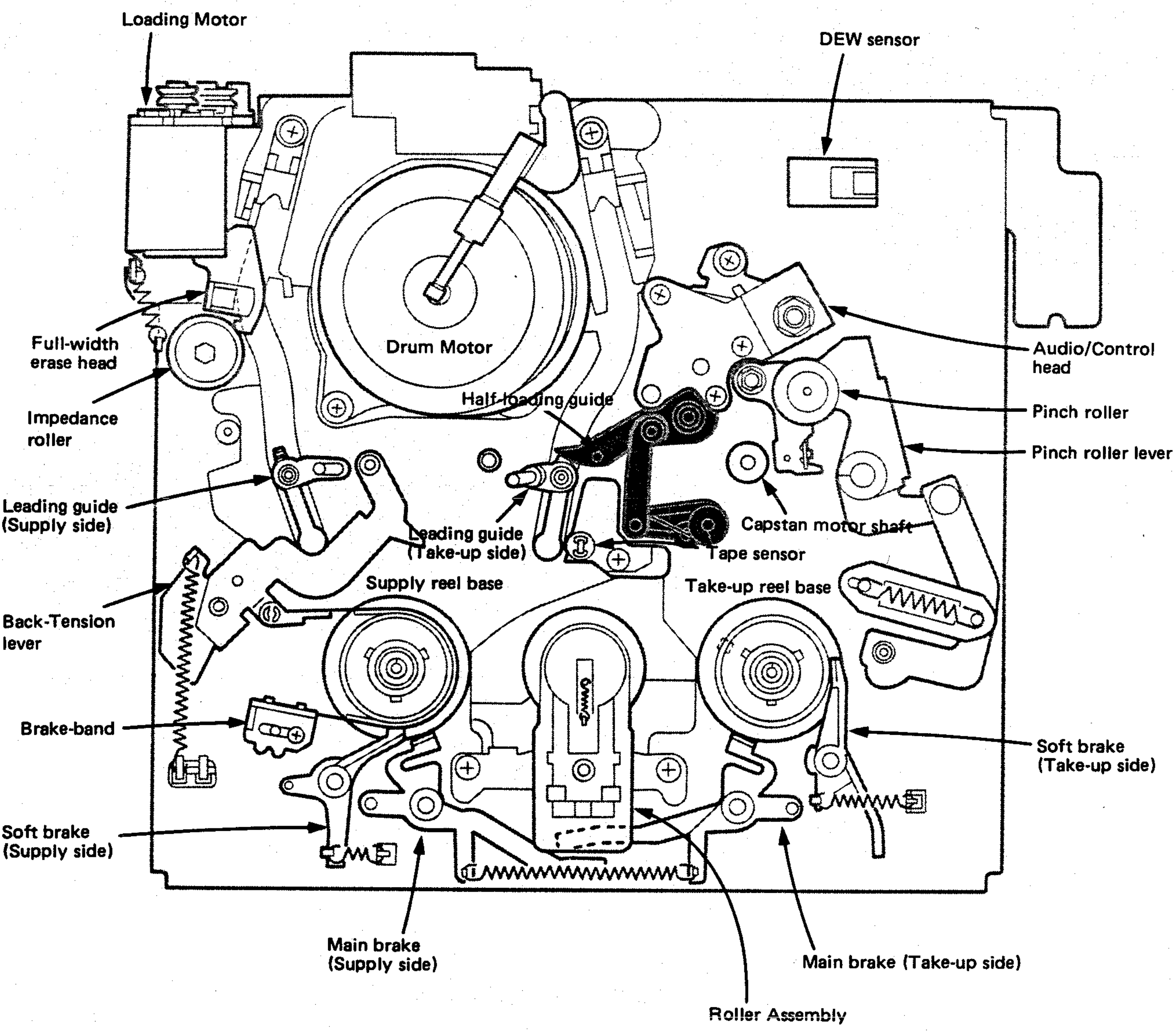
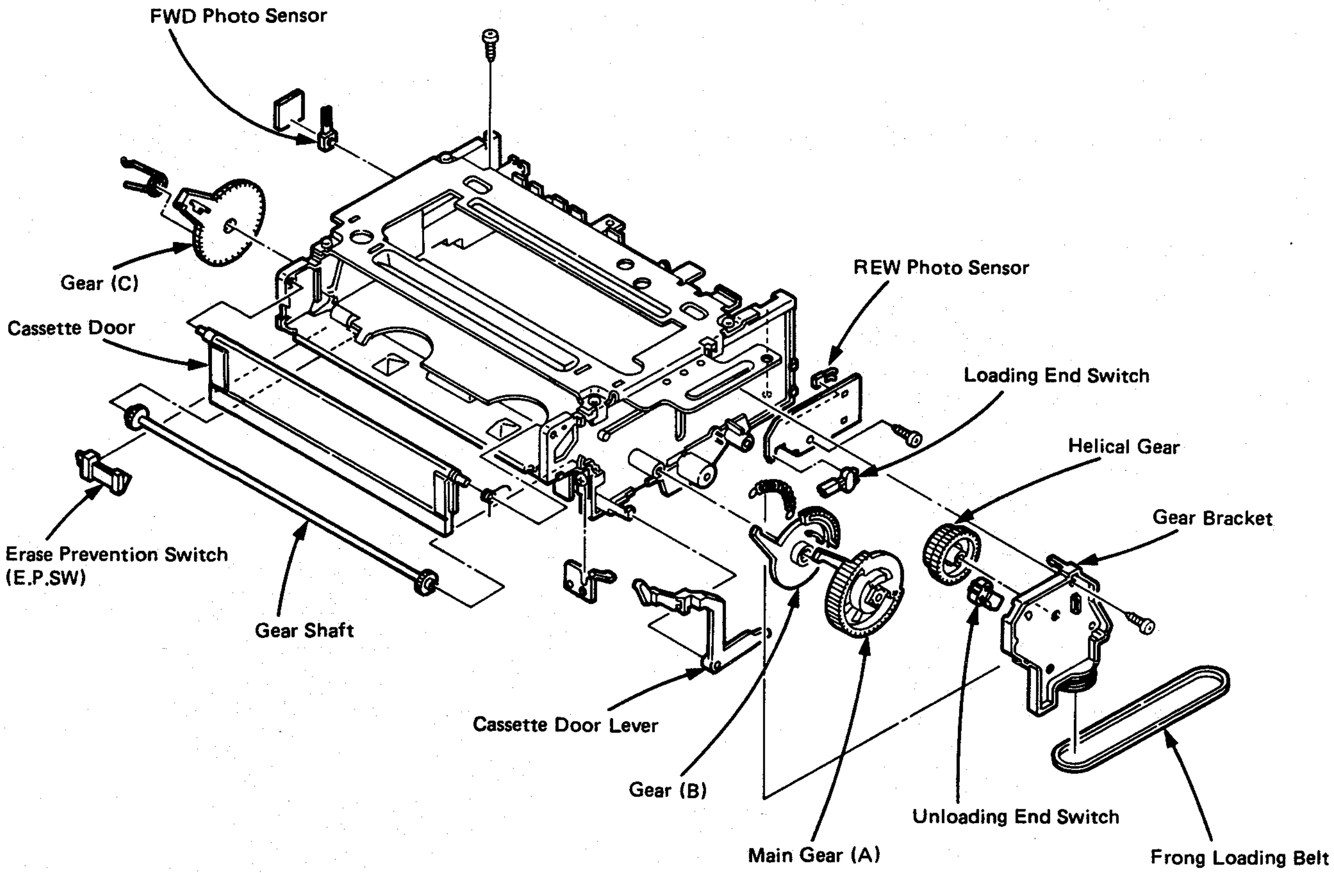

Loading Motor
DEW sensor
Full-width erase head
Drum Motor
Audio/Control head
Impedance roller
Half-loading guide
Pinch roller
Pinch roller lever
Leading guide (Supply side)
Leading guide (Take-up side)
Capstan motor shaft
Tape sensor
Supply reel base
Take-up reel base
Back-Tension lever
Brake-band
Soft brake (Take-up side)
Soft brake (Supply side)
Main brake (Supply side)
Main brake (Take-up side)
Roller Assembly

Fig. 1-1-1

(3) Front Loading Mechanism



FWD Photo Sensor
Gear (C)
Cassette Door
REW Photo Sensor
Loading End Switch
Helical Gear
Gear Bracket
Erase Prevention Switch
(E.P.SW)
Gear Shaft
Cassette Door Lever
Gear (B)
Main Gear (A)
Unloading End Switch
Frong Loading Belt

Fig. 1-1-3

(2) Mechanism Assembly (Bottom View)

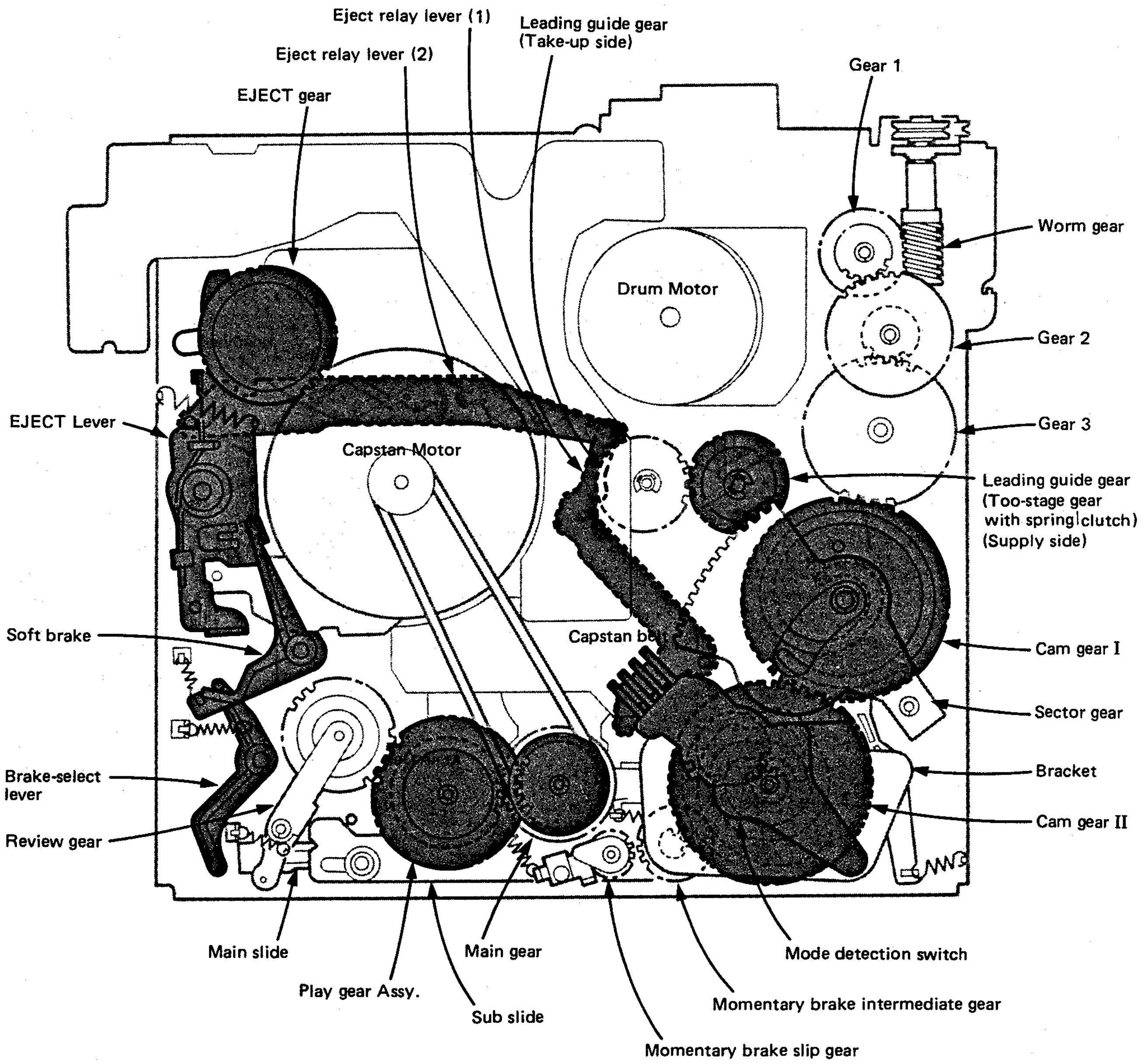

Eject relay lever (1)
Leading guide gear
(Take-up side)
Eject relay lever (2)
EJECT gear
Gear 1
Worm gear
Drum Motor
Gear 2
Gear 3
EJECT Lever
Capstan Motor
Leading guide gear
(Too-stage gear
with spring/clutch)
(Supply side)
Soft brake
Capstan belt
Cam gear I
Sector gear
Brake-select
lever
Bracket
Review gear
Cam gear II
Main slide
Main gear
Mode detection switch
Play gear Assy.
Momentary brake intermediate gear
Sub slide
Momentary brake slip gear

Fig. 1-1-2

▨ main parts changed from model VHR-2100 series.

1-2. OUTLINE OF THE MECHANISM

The main differences between the machines of this unit and that of the previous model (VHR-2100) are the five described below.

Although the individual components are changed in form to some extent, their basic functions remain unchanged from those of the previous model.

- Main slip gear mechanism
- Cam gear mechanism
- Front-loading mechanism
- Capstan soft-braking mechanism
- Half-loading mechanism

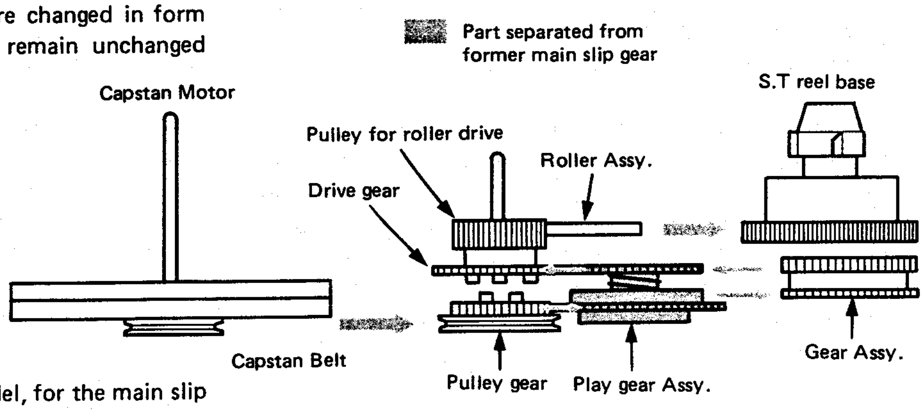


Fig. 1-2-1 Both reel base drive system

1-2-1. MAIN SLIP GEAR

In the mechanism for the previous model, for the main slip gear (which transfers the rotation of the capstan), the drive gear and pulley gear were on the same shaft.

For the mechanism (hereafter referred to as the "PL" mechanism) of this model, however, the drive gear and the pulley gear are on separate shafts.

- **Both-reel-base drive system**

For the PL mechanism, in the same way as for the mechanism of the previous model, the rotation of the capstan motor is transferred via the capstan belt to each gear, and rotational force is transferred from the roller assembly to both reel bases.

The roller assembly presses against either the supply reel base or the take-up reel base, depending upon the direction of rotation of the capstan motor.

Figure 1-2-1 shows the route of transfer of rotational force. The slip mechanism functions during playback, recording, forward search and slow motion playback. In other words, during these modes the drive gear is caused to rotate at the fixed torque by force, via the play gear assembly's slip mechanism, from the pulley gear.

During the fast-forward and rewind modes, the pulley gear and drive gear are locked, and, moreover, the engagement of the drive gear and the play gear assembly upper part is disengaged, and the pulley gear and drive gear rotate as one. During the reverse search mode, the reverse gear assembly meshes with the play gear assembly.

- **Main slip gear**

The main slip gear is composed of the pulley gear, the play gear assembly (which is always meshed with the pulley gear and which generates the playback torque), and the drive gear (which is on the same shaft as the pulley gear).

Figure 1-2-2 shows the normal (playback, record, forward & reverse search, slow, etc.) modes

When the capstan motor rotates in one of these modes, the pulley gear rotates, and, via the playback gear assembly, the drive gear rotates at a fixed torque.

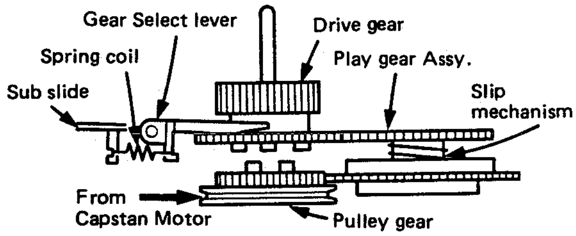


Fig. 1-2-2 Slip condition
(PLAY. REC. F/R SEARCH, SLOW mode)

Figure 1-2-3 shows the gear conditions during the fast-forward and rewind modes.

As a result of the movement of cam gear II, the sub slide, interlocked with the main slide, moves in the direction of the arrow (A).

Consequently, the spring coil (located between the sub slide and the gear-switching lever) causes the gear-switching lever to turn in the clockwise direction (B) in the illustration.

When this happens, the end of the gear-switching lever presses the drive gear downward (in the direction of the (C) arrow), thus disengaging the engagement with the playback gear assembly.

In addition, as a result of the engagement of the "tab" at the lower part of the drive gear and the "tab" at the top part of the pulley gear, the pulley gear and drive gear become locked, and rotate unified as one. The result, in other words, is that there is no slippage.

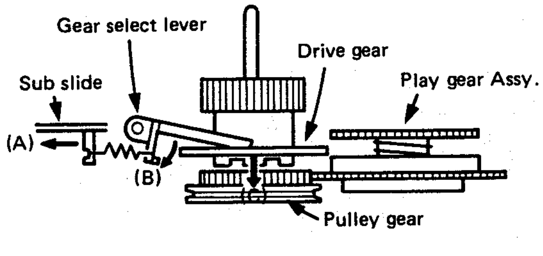


Fig. 1-2-3 Lock condition (F-FWD, REW modes)

1-2-2. CAM GEARS

The PL mechanism of this unit is equipped with two cam gears.

Cam gear I has mechanism driving cam slots at the front and back; and cam gear II is provided at the front with a gear to rotate the mechanism operating mode detector switch and has a mechanism driving cam slot at the back.

(1) Action of the cam slot at the front of cam gear.

Figure 1-2-4 shows the action of cam gear I as viewed from the back of the PL mechanism. The function of the cam slot at the front (as viewed from the back of the PL mechanism) of the cam gear is to load or unload the tape leading guide through the sector gear and leading guide gear. The PL mechanism, whose S-side leading guide gear is a two-stage gear with spring clutch mechanism, allows the sector gear to move leftward beyond the STOP position. This movement of the sector gear drives the eject lever to mesh the eject gear and the peripheral gear of the capstan motor, resulting in front loading or unloading of the cassette tape being achieved.

On the other hand, the gear at the front of cam gear II functions to rotate the mechanism operating mode detector switch (rotary switch). The important point for the action of the PL mechanism is where the mode detector switch, cam gear II, cam gear I, and S-side and T-side leading guide gears should mesh each other when the unit is stopped. When removing or mounting the gears and mode detector switch, refer to the gear/mode detector switch installation and adjustment section given later.

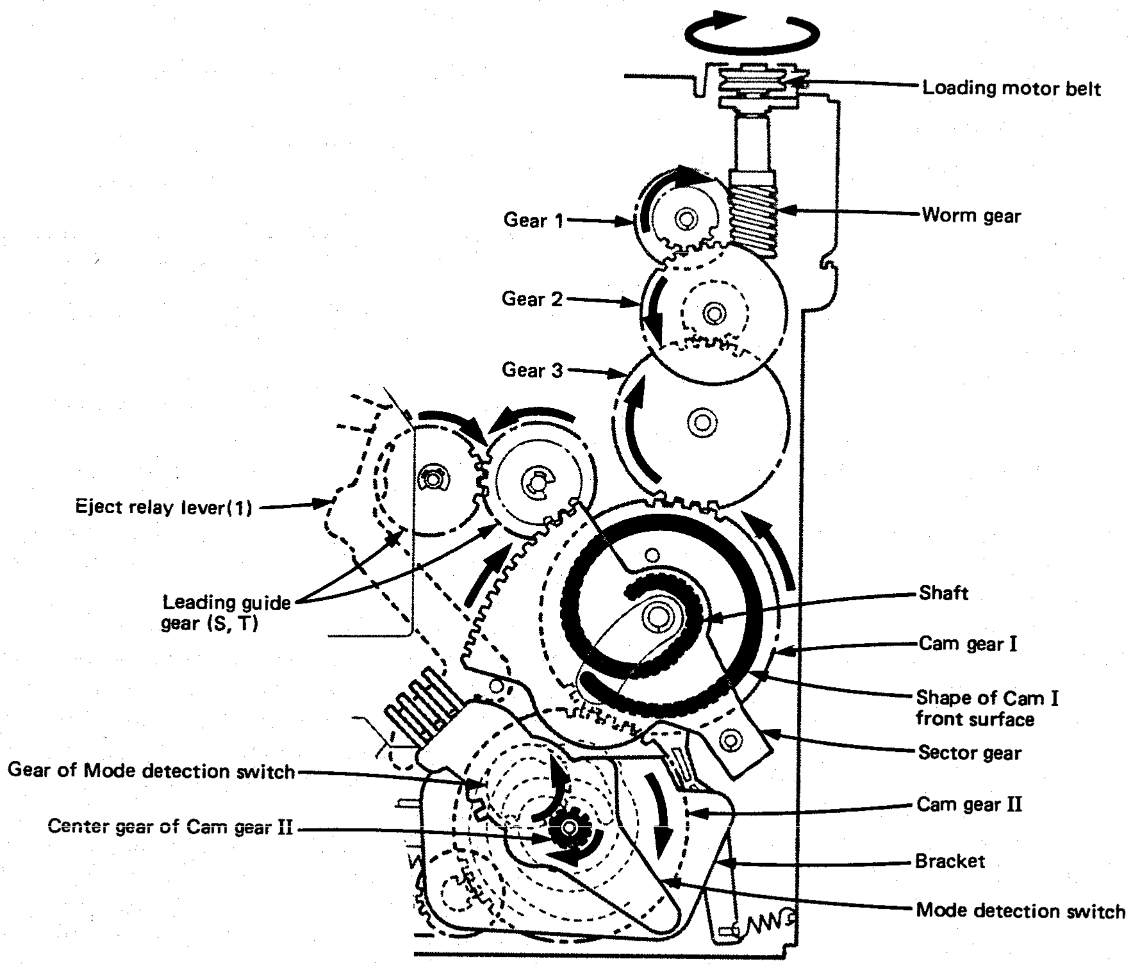
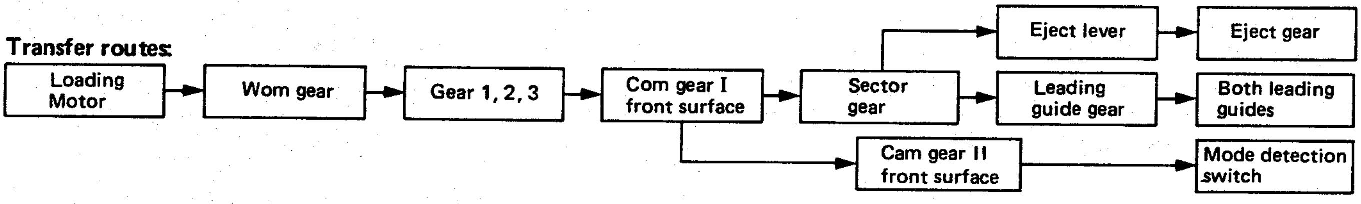

Loading motor belt
Gear 1
Worm gear
Gear 2
Gear 3
Eject relay lever(1)
Leading guide gear (S, T)
Shaft
Cam gear I
Shape of Cam I front surface
Sector gear
Gear of Mode detection switch
Cam gear II
Center gear of Cam gear II
Bracket
Mode detection switch

Fig. 1-2-4 Cam surface movement

Transfer routes:


Loading Motor
Wom gear
Gear 1, 2, 3
Com gear I front surface
Sector gear
Eject lever
Eject gear
Leading guide gear
Both leading guides
Cam gear II front surface
Mode detection switch

(2) Action of the cam slot at the back of cam gear.
The pinch roller pressing slide lever moves to the right and left according to the shape of the cam slot at the back of cam gear I. The pinch roller pressing operation is controlled by the pinch roller shaft 1 on the slide lever. Shaft 2, which functions to move the slide lever to the right and left, also controls the movement of the back tension lever. The half-loading state, in which the tape is always in contact with the control head, is achieved by the pinch roller pressing slide lever and half-loading lever shaft except when the unit is in the EJECT mode. Half-loading is a tape running state that is important for the linear time counter and for a program search operation on the VISS/VASS system those operates based on detected control signals.
The main slide lever is moved to the right and left by shaft 3 of the main slide lever along the cam slot at the back of cam gear II. The pressing operations of both the S-side and T-side main brakes are controlled by the main slide lever, take-up brake shaft 4, and supply brake shaft 5.
When the unit is in the SLOW, STILL, or F.ADV mode, the brake select lever is pushed by the main slide lever, causing the capstan soft brake to accomplish soft braking essential for intermittent driving of the capstan motor.

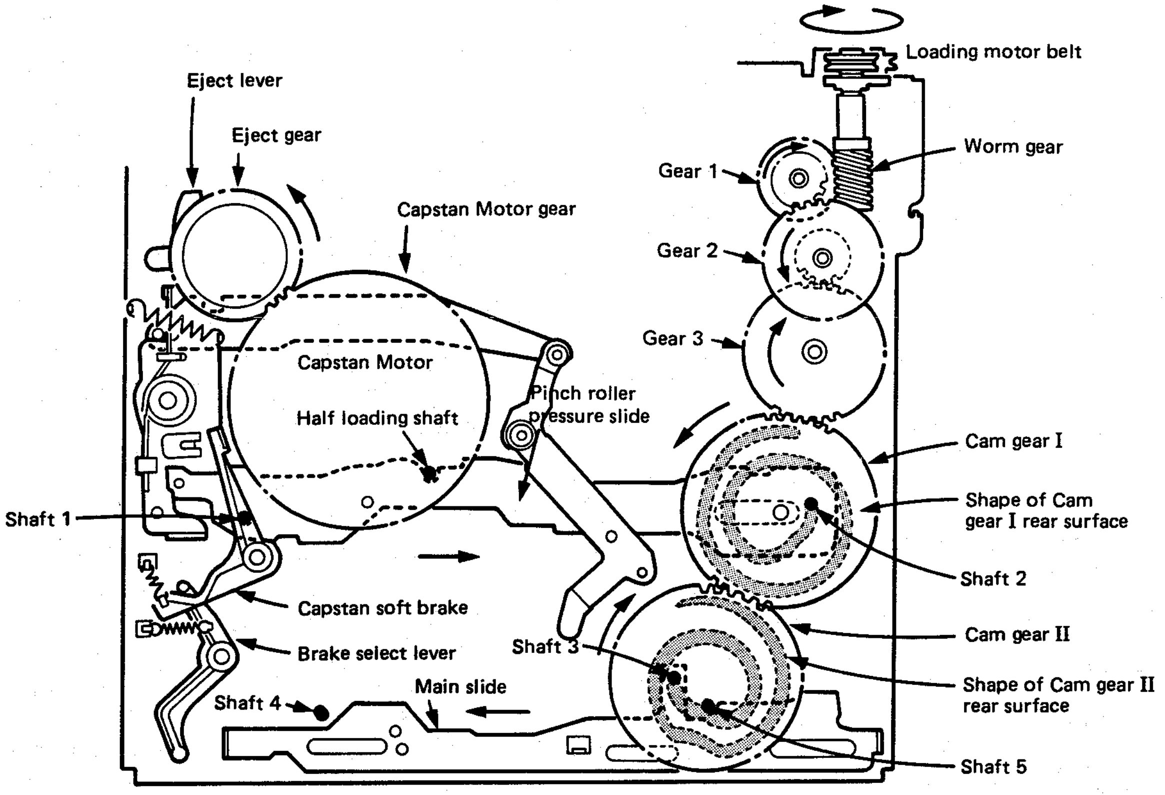
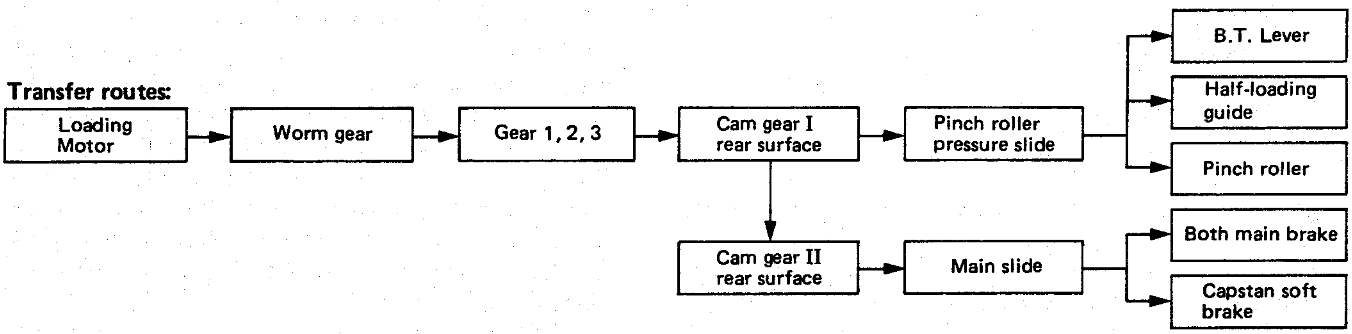

Loading motor belt
Eject lever
Eject gear
Worm gear
Gear 1
Capstan Motor gear
Gear 2
Gear 3
Capstan Motor
Pinch roller pressure slide
Half loading shaft
Cam gear I
Shape of Cam gear I rear surface
Shaft 1
Shaft 2
Capstan soft brake
Cam gear II
Brake select lever
Shaft 3
Shape of Cam gear II rear surface
Main slide
Shaft 4
Shaft 5

Fig. 1-2-5 Cam rear movement (Mechanism Bottom)

Transfer routes:


Loading Motor
Worm gear
Gear 1, 2, 3
Cam gear I rear surface
Pinch roller pressure slide
B.T. Lever
Half-loading guide
Pinch roller
Cam gear II rear surface
Main slide
Both main brake
Capstan soft brake

1-2-3. DRIVING OF THE FRONT-LOADING MECHANISM BY THE CAPSTAN MOTOR

Figure 1-2-6 shows the eject mechanism. Since the S-side leading guide gear is a two-stage gear with spring clutch mechanism as described in 1-2-2, the sector gear can be further moved from the STOP position to the EJECT position by cam gear I. When the sector gear moves to the left (to the EJECT position), it pushes shaft (A), causing shaft (B) to pull coil spring (a) of the eject lever through eject relay levers 1 and 2. This action causes the eject gear and the peripheral gear of the capstan motor to mesh each other, rotating the drive pulley on the front-loading mechanism side through the belt. Front loading (tape loading) or unloading (ejection) of the cassette tape is performed according to the rotating direction of the capstan motor. When the unit is in any mode other than the front loading (tape loading) and unloading (ejection) modes, the sector gear is out of contact with shaft (A), and thus the eject gear and the peripheral gear of the capstan motor are kept disengaged from each other by the tension of spring (b). At this time shaft (C) of the pinch roller pressing slide lever serves to prevent the eject gear from touching the peripheral gear of capstan motor.

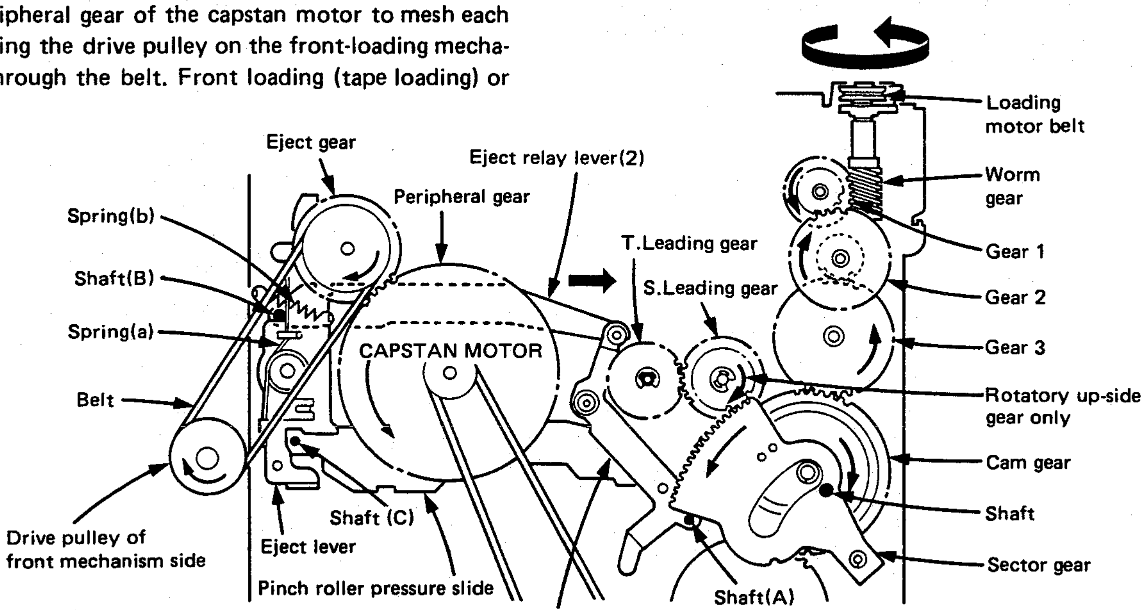

Loading motor belt
Eject gear
Eject relay lever(2)
Peripheral gear
Worm gear
Spring(b)
T.Leading gear
Gear 1
Shaft(B)
S.Leading gear
Gear 2
Spring(a)
Gear 3
CAPSTAN MOTOR
Rotatory up-side gear only
Belt
Cam gear
Shaft (C)
Shaft
Drive pulley of front mechanism side
Eject lever
Sector gear
Pinch roller pressure slide
Shaft(A)
Eject relay lever(1)

Fig. 1-2-6

1-2-4 CAPSTAN "SOFT BRAKE"

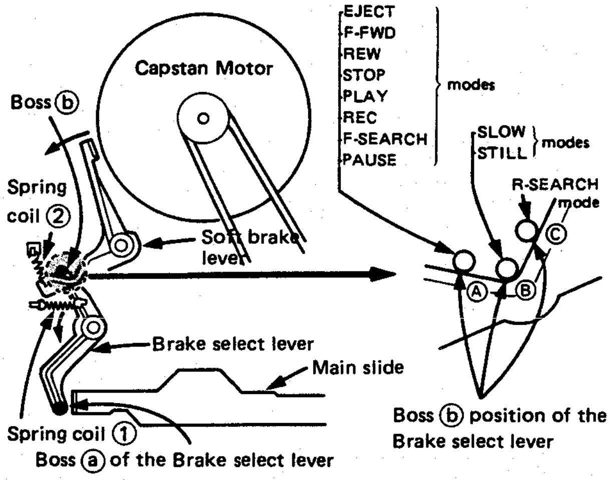

Capstan Motor
Boss ⓑ
Spring coil ②
Soft brake lever
EJECT
F-FWD
REW
STOP
PLAY
REC
F-SEARCH
PAUSE
modes
SLOW
STILL
modes
R-SEARCH mode
Ⓐ
Ⓑ
Ⓒ
Brake select lever
Main slide
Spring coil ①
Boss ⓐ of the Brake select lever
Boss ⓑ position of the Brake select lever

Fig. 1-2-7

The capstan "soft brake" is activated only during the slow, still and fast-advance modes.

For the eject, fast-forward, rewind, stop, playback, record, forward search and pause modes, the main slide is farthest to the right, and the boss a of the brake select lever and the left edge of the main slide are separated.

In other words, the brake select lever is pulled by the spring coil ①, causing it to contact the left side of the "soft brake" cam; the "soft brake" then rotates in the counterclockwise direction and moves away from the outer circumference of the capstan.

When there is a change from the playback mode to the slow, still or fast-advance mode, the main slide moves toward the left.

When the left edge of the main slide presses against the brake select lever's boss a , the brake select lever moves in the clockwise direction.

As a result of this movement, the point at which the brake select lever's boss b contacts the cam part of the "soft brake" moves from Ⓐ to Ⓑ.

The "soft brake" lever then rotates in the clockwise direction as a result of the force exerted by the spring coil ②, and the brake shoe part at the end of the "soft brake" lever is pressed tightly against the outer circumference of the capstan motor, thus applying the braking force.

During the reverse search mode, the main slide moves even farther to the left, and, because the brake-switching lever is caused to rotate in the clockwise direction, the position of the brake select lever's boss b moves from position Ⓑ to position Ⓒ.

As a result, the "soft brake" lever moves in the counterclockwise direction, and the brake shoe at the end of the "soft brake" moves away from the outer circumference of the capstan motor, thus releasing the braking force.

1-2-5.HALF-LOADING MECHANISM

This unit is equipped with the linear time counter and High-Speed Index Search System (VISS/VASS) that always operate based on detected control signals in every mode including REW/F. FWD. Accordingly, the unit uses the half-loading mechanism that enables the tape to always contact the control (A/C) head for detecting control signals even in the REW/F. FWD and STOP modes as shown in Fig. 1-2-8.

As shown in Fig. 1-2-9 the half-loading lever assembly consists of three levers linked together. The half-loading lever shaft is always pressed against the pinch roller pressing slide lever by spring (a). The slide lever is situated on the back of the half-loading mechanism and is moved to the right and left along the above-mentioned cam slot at the back of cam gear I. Figure 1-2-9 shows in what state the slide lever and half-loading lever are when the unit is in the EJECT mode. When the unit is loaded with a cassette tape and enters the STOP mode, the pinch roller pressing slide lever moves to the left to raise the half-loading lever shaft according to the shape of the lever, putting the unit in the tape half-loading state shown in Fig. 1-2-8. When the tape is normally run in the leading guide as in the PLAY or R/F SEARCH mode, the half-loading lever is returned a little by the pinch-roller pressing slide lever, preventing the half-loading guide from touching the tape for protecting it.

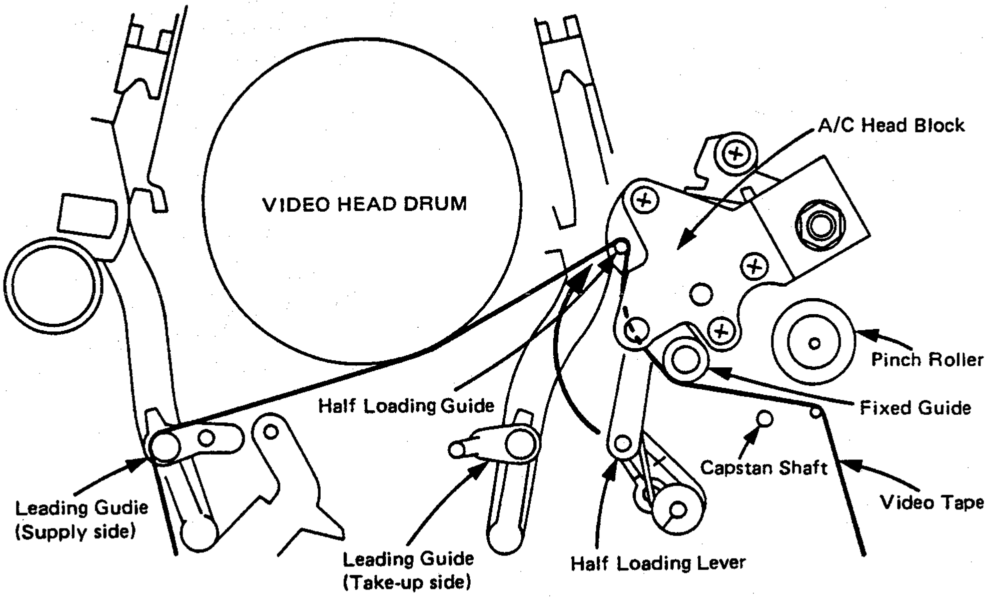

A/C Head Block
VIDEO HEAD DRUM
Pinch Roller
Fixed Guide
Half Loading Guide
Capstan Shaft
Video Tape
Leading Gudie
(Supply side)
Leading Guide
(Take-up side)
Half Loading Lever

Fig. 1-2-8

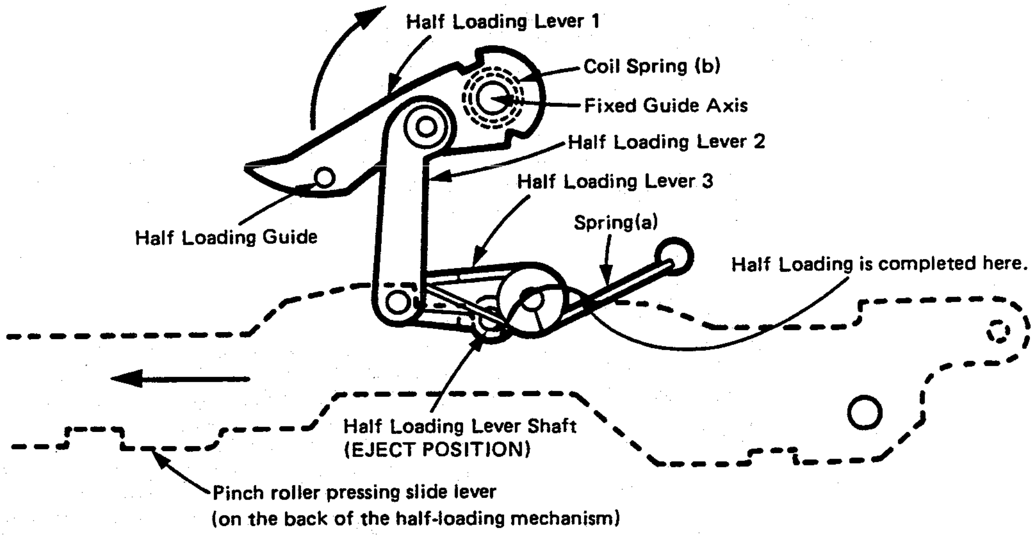

Half Loading Lever 1
Coil Spring (b)
Fixed Guide Axis
Half Loading Lever 2
Half Loading Lever 3
Half Loading Guide
Spring(a)
Half Loading is completed here.
Half Loading Lever Shaft
(EJECT POSITION)
Pinch roller pressing slide lever
(on the back of the half-loading mechanism)

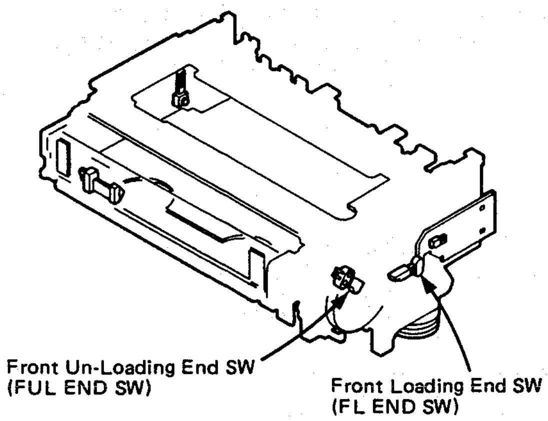
Fig. 1-2-9

1-3. MECHANISM OPERATION IN EACH MODE

The movement of the mechanism in each mode is basically unchanged from that of previous models.
In this section, timing charts are used to present the movement of the motor and brake components during seven modes.

(1) Cassette insertion
(2) Changing from the stop mode to the playback mode
(3) Changing from the playback mode to the reverse-search mode
(4) Changing from the record mode to the pause mode
(5) Changing from the playback mode to the stop mode
(6) Changing from the stop mode to the fast-forward mode
(7) Changing from the stop mode to the rewind mode
(8) Changing from the stop mode to the eject mode

1-3-1. ILLUSTRATIONS OF THE ARRANGEMENT OF THE MOTOR AND BRAKE COMPONENTS ARE SHOWN IN Figs. 1-3-1 and 1-3-2


Front Un-Loading End SW
(FUL END SW)
Front Loading End SW
(FL END SW)

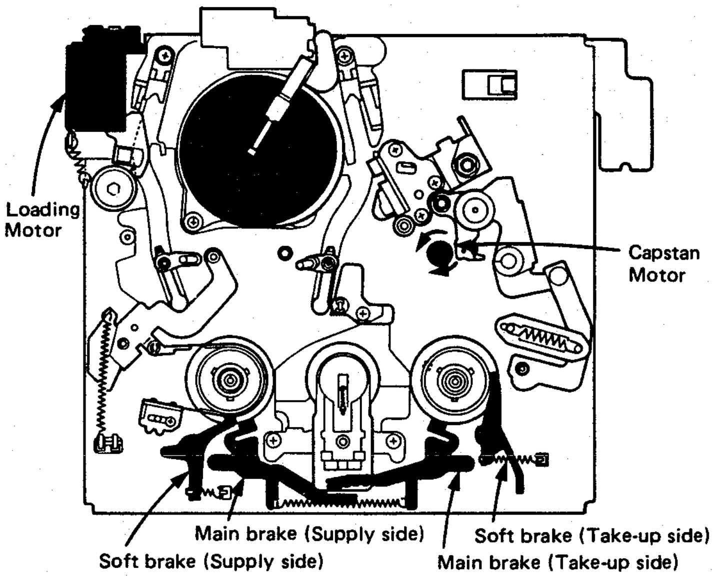
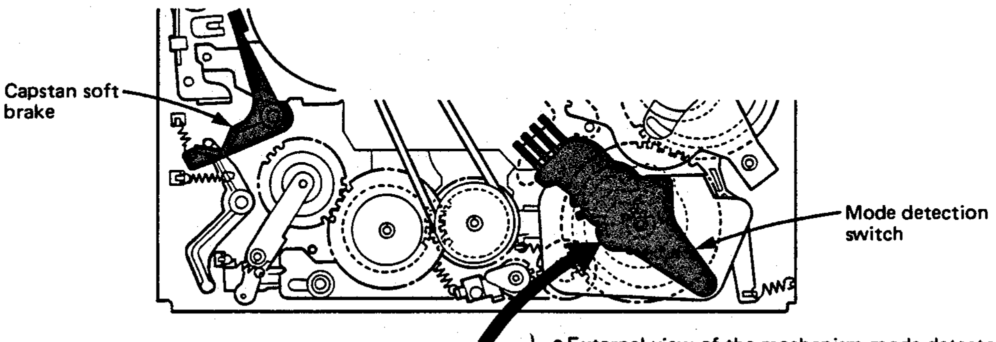
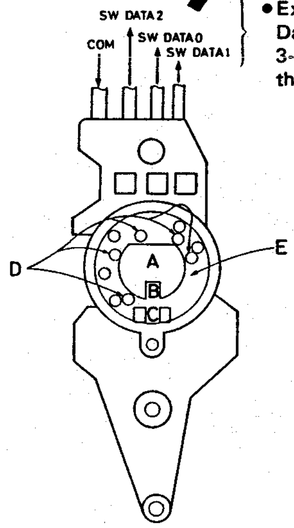

Loading Motor
Capstan Motor
Main brake (Supply side)
Soft brake (Supply side)
Soft brake (Take-up side)
Main brake (Take-up side)

Fig. 1-3-1 (Mechanism Top)


Capstan soft brake
Mode detection switch


SW DATA2
COM
SW DATA0
SW DATA1
A
B
C
D
E

- External view of the mechanism mode detector switch
Data output from the mode detector switch
3-bit data that corresponds to the mechanism mode is outputted to the system control MPU.

Part E (appearance of the rotary switch)
The mode detector switch acts in synchronization with the movement of cam gear II. When cam gear II rotates, part (A) also rotates. The rotary switch (E) has ten protuberances (D) and the protuberance (C) for the alignment of the STOP position. It can be judged by the positions of these protuberances and the notch (B) of the rotating part (A) what mode the mechanism is in. In the illustration at the left parts (B) and (C) are in alignment, indicating that the mechanism is in the STOP mode. The enlarged view of part E shown in Fig. 1-3-3 shows in what position the mechanism mode detector switch is in respective modes.

Fig. 1-3-2 (Mechanism Bottom)

1-3-2. MECHANISM OPERATION IN EACH MODE (Table 1-3-1)

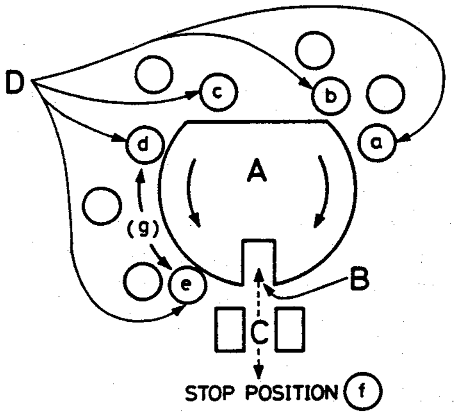
Parts Name / Mode	Loading Motor	Capstain Motor	Drum Motor	Main brake		Soft brake		Capstain motor Soft brake	Mode detection SW DATA (3bit HEX. DATA)
				S	T	S	T		
CASSETTE IN	OFF	ON (C.C.W)	OFF	OFF	ON	OFF	ON	OFF	①
HALF LOADING	ON (C.C.W)	OFF	OFF	OFF	ON	OFF	ON	OFF	⑦
STOP	OFF	OFF	OFF	OFF	ON	ON	ON	OFF	③
LOADING	ON (C.C.W)	ON → OFF (C.W.)	ON	OFF	ON	ON	ON	OFF	③→④
UN-LOADING	ON (C.W)	ON (C.C.W)	ON (C.C.W → OFF)	OFF	ON	ON	ON	OFF	④→③
PLAY/REC	OFF	ON (C.W)	ON	OFF	OFF	OFF	ON	OFF	④
F-SEARCH	OFF	ON (C.W)	ON	OFF	OFF	OFF	ON	OFF	④
R-SEARCH	OFF	ON (C.C.W)	ON	OFF	OFF	OFF	ON	OFF	⑥
STILL	OFF	OFF	ON	OFF	OFF	OFF	ON	ON	⑤
SLOW, F-ADV	OFF	ON (C.W)	ON	OFF	OFF	OFF	ON	ON	⑤
F FWD	OFF	ON (C.W)	ON	OFF	OFF	OFF	ON	OFF	②
REW	OFF	ON (C.W)	ON	OFF	OFF	OFF	ON	OFF	②
PAUSE	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF	④
HALF UN-LOADING	ON (C.W)	ON (C.C.W)	OFF	OFF	ON	OFF	ON	OFF	⑦
EJECT	OFF	ON (C.W)	OFF	OFF	ON	OFF	ON	OFF	①

Table 1-3-1

Note:

1. CW: clockwise direction
   CCW: counterclockwise direction
   The rotation of the capstan, drum and each motor is as seen from the chassis surface (top); the rotation of the loading motor is as seen from the front of the unit.
2. ON/OFF condition of brakes:
   ON: when brake is applied
   OFF: when brake is not applied

Enlarged view of part E of the mechanism mode detector switch



Relations between respective modes and the mode switch positions as well as mode switch data output

MODE SW / MODE	SW POSITION	3bit SW DATA			
		DATA 2	DATA 1	DATA 0	HEX. DATA
EJECT	d	0	0	1	①
F · FWD/REW	e	0	1	0	②
STOP	f	0	1	1	③
PLAY/REC F . SEARCH	a	1	0	0	④
SLOW/STILL	b	1	0	1	⑤
R · SEARCH	c	1	1	0	⑥
HALF-LOADING	(g)	1	1	1	⑦

Fig. 1-3-3

1-3-3. TIMING CHARTS FOR SEFVEN MAIN MODES

The mechanism operation for each mode as time passes is shown in the following charts.

- The rotation direction of the drum motor and capstan motor is as seen from above the mechanism.
- The rotation direction of the loading motor is as seen from the front of the unit.
- ON/OFF condition of brakes:
  ON: when brake is applied
  OFF: when brake is not applied

(1) CASSETTE IN

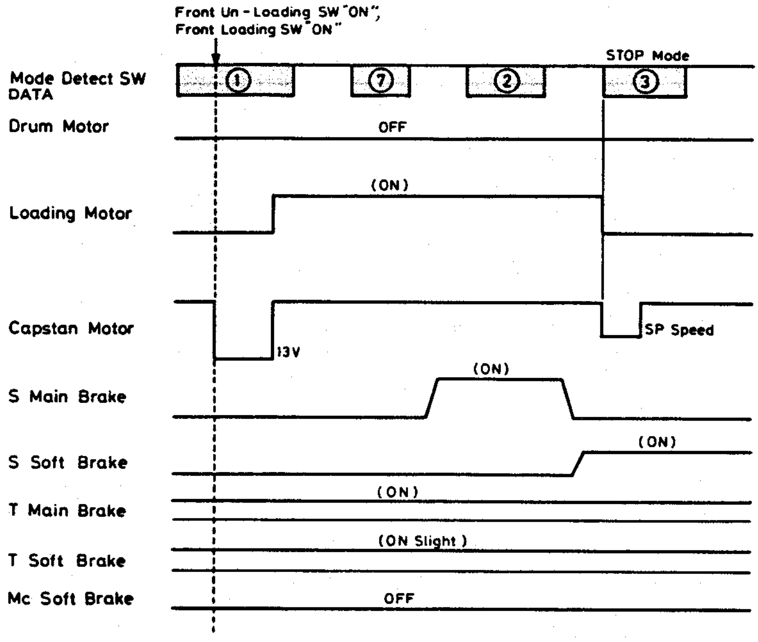

Front Un-Loading SW "ON",
Front Loading SW "ON"
STOP Mode
Mode Detect SW DATA
①
⑦
②
③
Drum Motor
OFF
Loading Motor
(ON)
Capstan Motor
13V
SP Speed
S Main Brake
(ON)
S Soft Brake
(ON)
T Main Brake
(ON)
T Soft Brake
(ON Slight)
Mc Soft Brake
OFF

Table 1-3-2 Timing chart of CASSETTE IN mode

(2) From STOP mode to PLAY mode

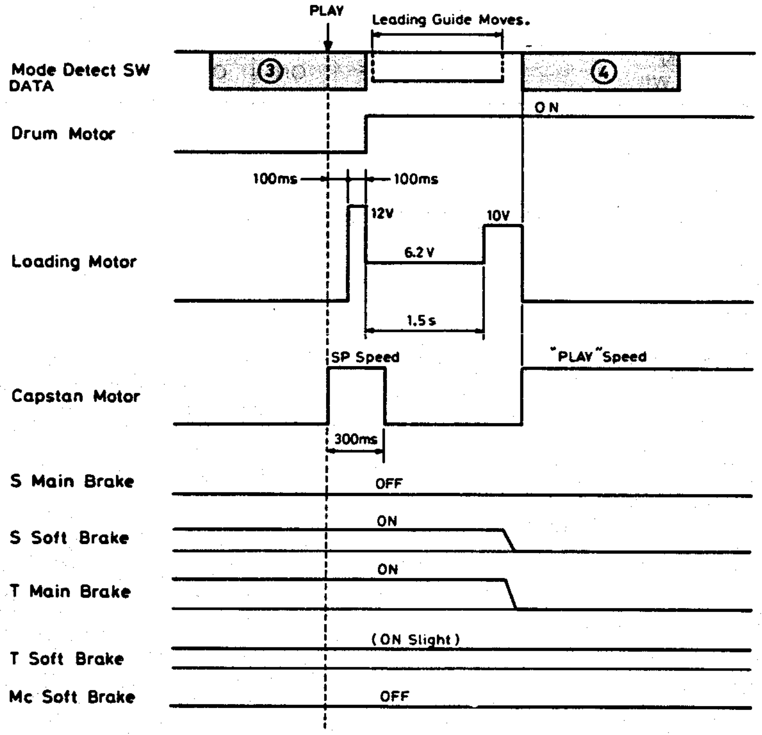

PLAY
Leading Guide Moves.
Mode Detect SW DATA
③
④
Drum Motor
ON
100ms
100ms
Loading Motor
12V
10V
6.2V
1.5s
Capstan Motor
SP Speed
"PLAY" Speed
300ms
S Main Brake
OFF
S Soft Brake
ON
T Main Brake
ON
T Soft Brake
(ON Slight)
Mc Soft Brake
OFF

Table 1-3-3 Timing chart of STOP mode to PLAY mode

(3) PLAY mode to R-SEARCH mode

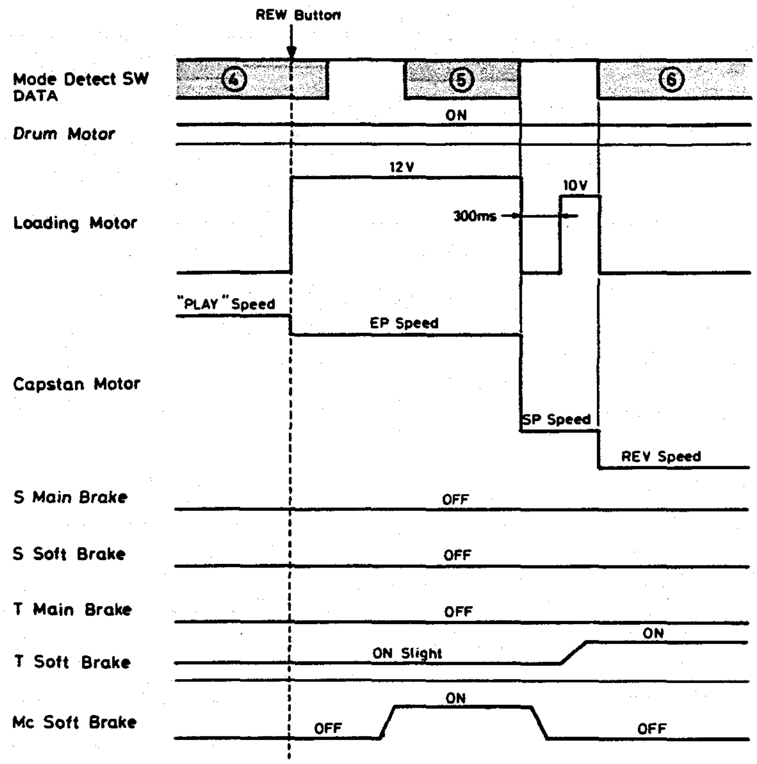

REW Button
Mode Detect SW DATA
④
⑤
⑥
Drum Motor
ON
Loading Motor
12V
10V
300ms
"PLAY" Speed
EP Speed
Capstan Motor
SP Speed
REV Speed
S Main Brake
OFF
S Soft Brake
OFF
T Main Brake
OFF
ON
T Soft Brake
ON Slight
ON
Mc Soft Brake
OFF
OFF

Table 1-3-4 Timing chart of PLAY mode to R-SEARCH mode

(4) REC mode to PAUSE mode

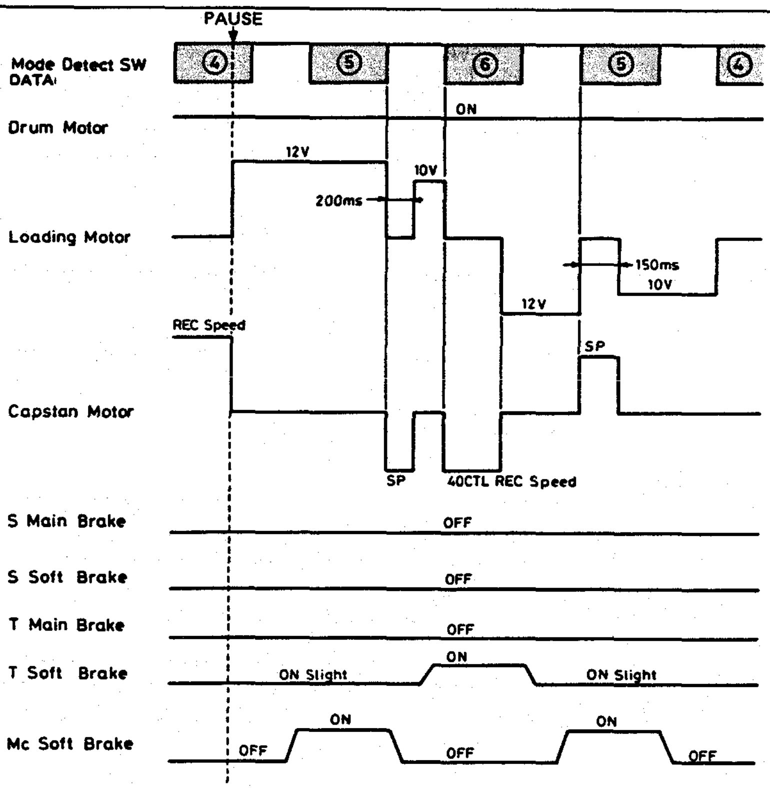

PAUSE
Mode Detect SW DATA
④
⑤
⑥
⑤
④
Drum Motor
ON
12V
10V
200ms
Loading Motor
150ms
10V
12V
REC Speed
SP
Capstan Motor
SP
40CTL REC Speed
S Main Brake
OFF
S Soft Brake
OFF
T Main Brake
OFF
ON
T Soft Brake
ON Slight
ON Slight
ON
ON
Mc Soft Brake
OFF
OFF
OFF

Table 1-3-5 Timing chart of REC mode to PAUSE mode.

(5) PLAY mode to STOP mode

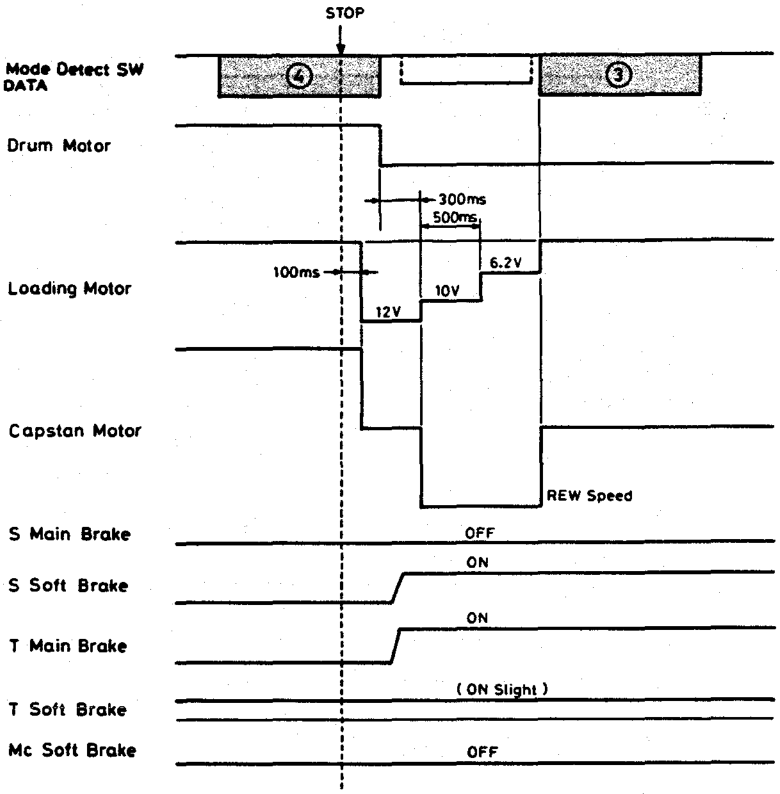

STOP
Mode Detect SW DATA
④
③
Drum Motor
300ms
500ms
100ms
6.2V
Loading Motor
12V
10V
Capstan Motor
REW Speed
S Main Brake
OFF
ON
S Soft Brake
ON
T Main Brake
(ON Slight)
T Soft Brake
Mc Soft Brake
OFF

Table 1-3-6 Timing chart of PLAY mode to STOP mode

(6) STOP mode to F-FWD mode

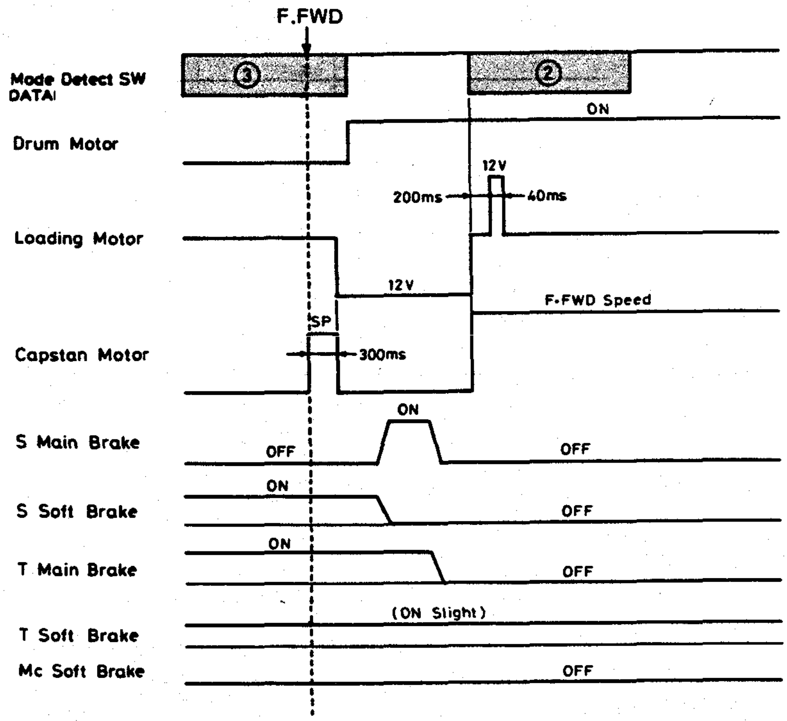
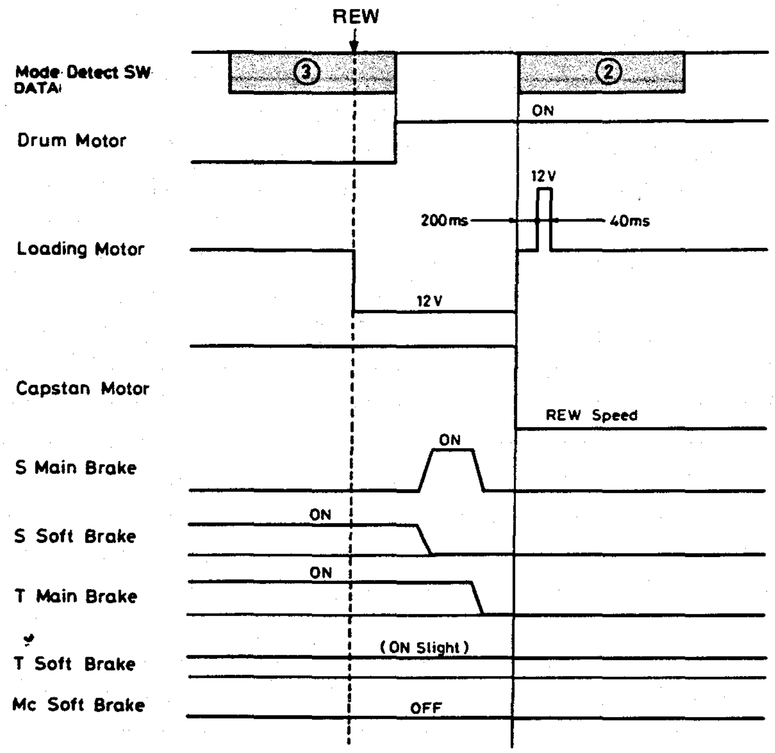

F.FWD
Mode Detect SW DATA
③
②
ON
Drum Motor
12V
200ms
40ms
Loading Motor
12V
F-FWD Speed
SP
Capstan Motor
300ms
ON
S Main Brake
OFF
OFF
ON
S Soft Brake
OFF
ON
T Main Brake
OFF
(ON Slight)
T Soft Brake
Mc Soft Brake
OFF

Table 1-3-7 Timing chart of STOP mode to F-FWD mode

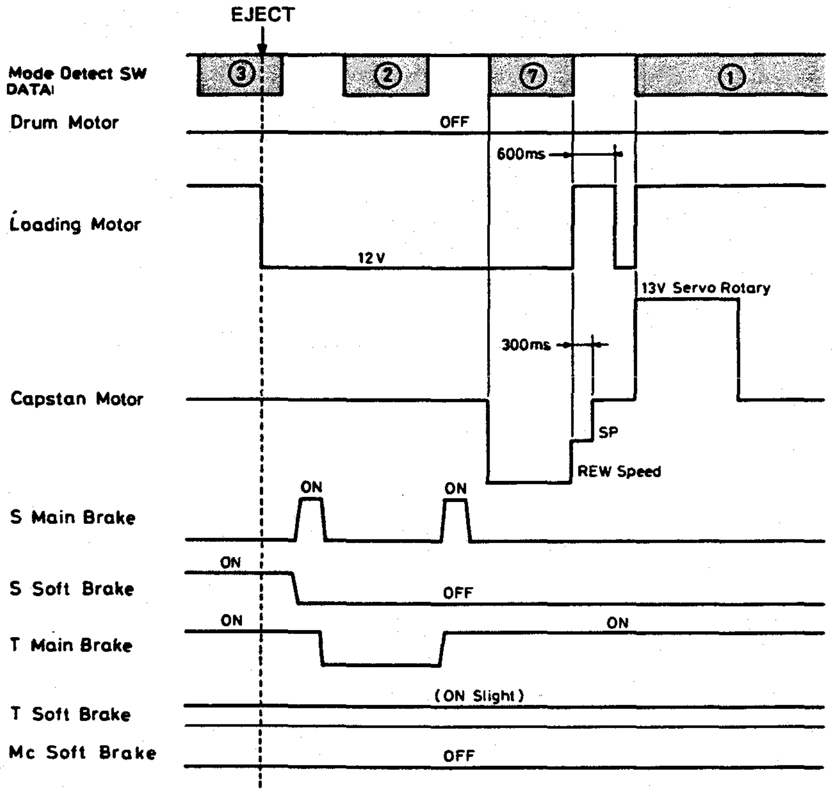
(7) STOP mode to REW mode



REW
Mode Detect SW DATA
③
②
ON
Drum Motor
12V
200ms
40ms
Loading Motor
12V
Capstan Motor
REW Speed
ON
S Main Brake
ON
S Soft Brake
ON
T Main Brake
(ON Slight)
T Soft Brake
Mc Soft Brake
OFF

Table 1-3-8 Timing chart of STOP mode to REW mode

(8) STOP mode to EJECT mode



EJECT
Mode Detect SW DATA
③
②
⑦
①
Drum Motor
OFF
600ms
Loading Motor
12V
13V Servo Rotary
300ms
Capstan Motor
SP
REW Speed
ON
ON
S Main Brake
ON
S Soft Brake
OFF
ON
T Main Brake
ON
(ON Slight)
T Soft Brake
Mc Soft Brake
OFF

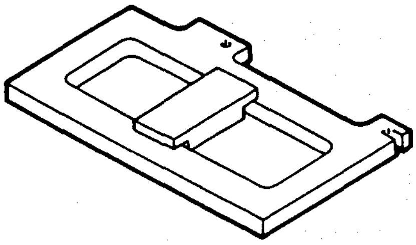
Table 1-3-9 Timing chart of STOP mode to EJECT mode

2. MECHANISM ADJUSTMENTS

2-1. JIGS AND TOOLS FOR ADJUSTMENT

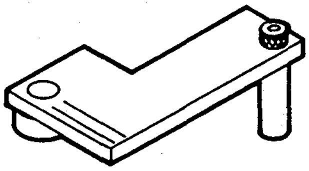
No.	Part Name	Part No.	Remarks
1	Cassette stand plate gauge	VHJ-0001	Adjustment of reel height
2	Position adjustment gauge	VHJ-0030	Adjustment of back tension guide
3	Eccentric screwdriver	VHJ-0003	Tape path alignment
4	Torque gauge driver	VHJ-0014	Adjustment of fixed screws
5	Torque gauge	VHJ-0004	Measurement for all winding torque
6	Alignment tape	VHJ-0008	Colour-bar. 1kHz
7	Alignment tape	VHJ-0009	Monoscope. 7kHz
8	Cassette torque meter	VHJ-0016	Adjustment of back tension torque

VHJ-0001



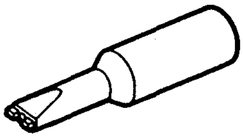
No. 1

VHJ-0030

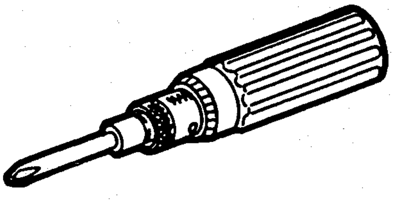
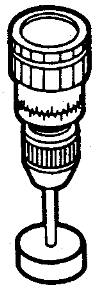
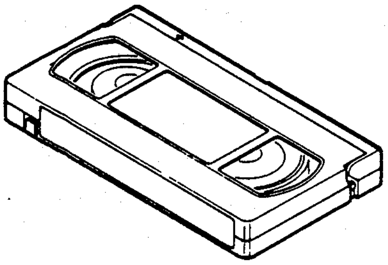
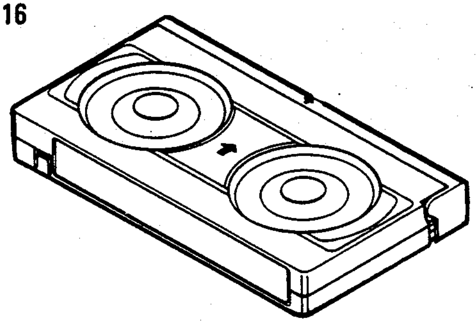


No. 2

VHJ-0003



No. 3

VHJ-0014  No. 4	VHJ-0004  No. 5
VHJ-0008, VHJ-0009  No. 6, 7	VHJ-0016  No. 8

2-2. STANDARD MAINTENANCE TIMETABLE

In order to keep the VCR in peak working order, care for the parts indicated in **Table 2-2-1** at the periods given.

Parts \ Hours	500	1000	1500	2000	2500	3000	3500	4000	4500
VIDEO HEAD	○	○	○	○	○	○	○	○	○
ADUIO/CONTROL HEAD	○	○	○	○	○	○	○	○	○
FULL ERASE HEAD	○	○	○	○	○	○	○	○	○
CAPSTAN MOTOR	○	○	○	○	○	○	○	○	○
PINCH ROLLER	○	○	○	○	○	○	○	○	○
TAKE-UP REEL				▲			▲		
SUPPLY REEL				▲			▲		

○ : Cleaning
▲ : Lubrication

Table 2-2-1

2-3. CLEANING

2-3-1. VIDEO HEAD (See Fig. 2-3-1.)

(1) Turn off the power. [Set the power switch to the OFF position.]
(2) Move the video head drum to a position at which the video heads are easy to clean.
(3) Wipe each head several times with the deerskin part of the head cleaning stick. If the heads are extremely dirty, wipe more times.

(Note)

- When pressing a finger on the head cleaning stick to clean the heads, do not press too hard.
- Do not move the head cleaning stick up and down against the video heads; doing so will damage the heads.

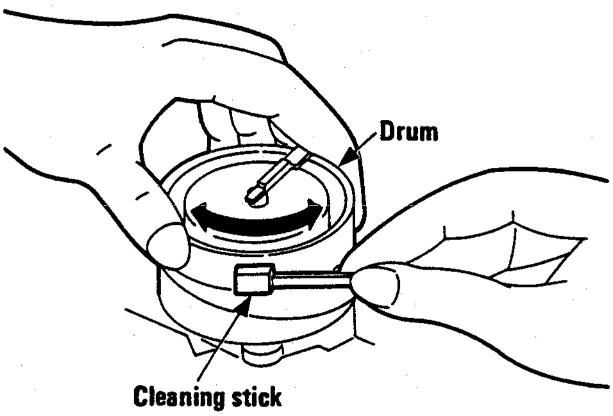


Fig. 2-3-1

2-3-2. TAPE PATH

Clean the surfaces of the tape guides and the drum tape path by using a soft cloth or cleaning stick moistened with an alcohol.

(Note)

When cleaning the drum surfaces, be careful not to contact the video heads.

2-3-3. PINCH ROLLER, CAPSTAN, SUPPLY AND TAKE-UP REEL BASE

(1) Using a soft cloth moistened with alcohol, clean the surfaces of the pinch roller, capstan, supply and take-up reel base.
(2) If there are scratches on the pinch roller, remove the E-ring and replace the pinch roller lever assembly.

2-3-4. CLEANING THE AUDIO/CONTROL HEAD AND FULL-ERASE HEAD (See Fig. 2-3-2, 2-3-3.)

Apply alcohol to the cleaning stick, and move the cleaning stick against the heads in the direction of the head gap.

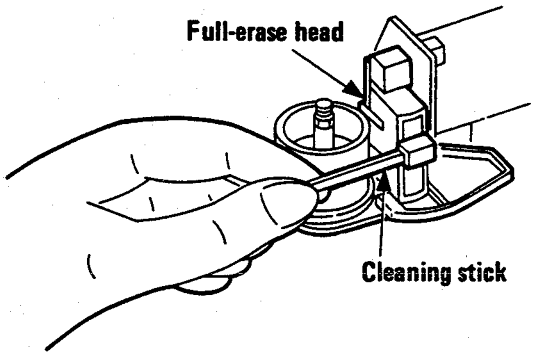


Fig. 2-3-2

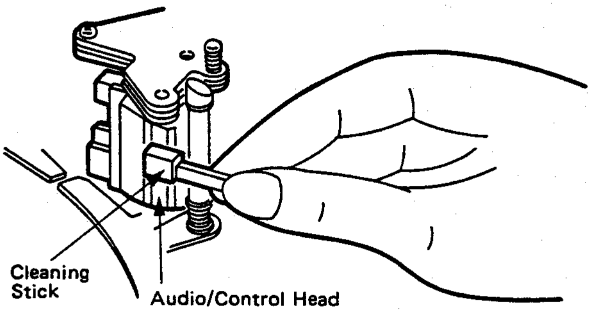


Fig. 2-3-3

2-4. MECHANISM REPAIR AND PARTS REPLACEMENT

2-4.1. BACK TENSION BRAKE BAND AND BACK TENSION LEVER (See Fig. 2-4-1.)

(1) Remove the spring (a).

(2) Remove the screw (b) and washers (c), and then remove the brake band and backtension lever.

(3) Disconnect the brake band lever from the back tension lever.

(4) Install the new brake band by reversing the removal procedure.

(Note)

Be careful not to crease or scratch the new brake band.

(5) Adjust the position of the back tension lever.

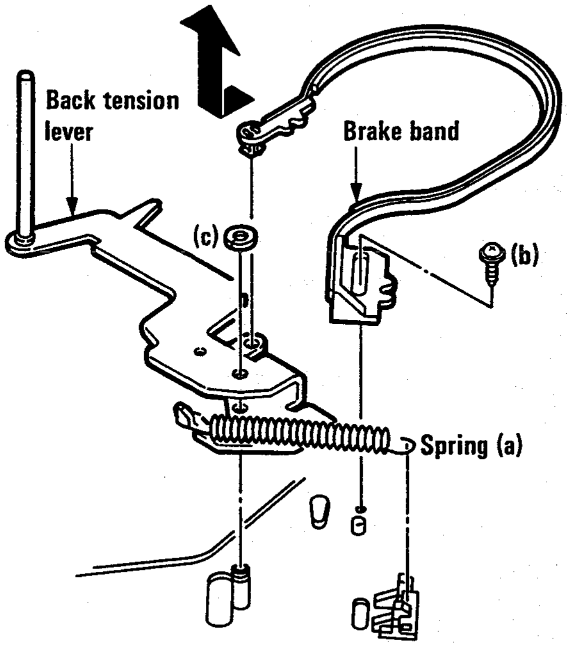

Back tension lever
Brake band
(c)
(b)
Spring (a)

Fig. 2-4-1

2-4-2. LOADING MOTOR (See Fig. 2-4-2.)

(1) Disconnect the loading motor connector.

(2) Remove the loading motor belt.

(3) Remove the screws (a), and then remove the loading motor assembly.

(4) Replace the loading motor, and install it in the reverse order of removal.

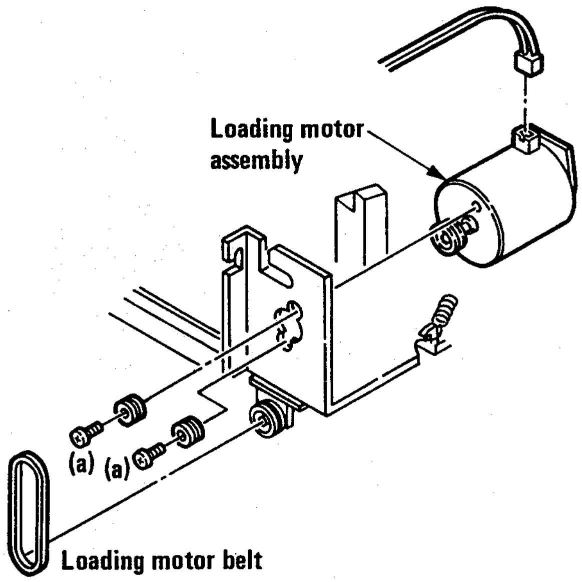

Loading motor assembly
(a)
(a)
Loading motor belt

Fig. 2-4-2

2-4-3. SUPPLY REEL BASE (See Fig. 2-4-3.)

(1) Remove the screw (a) of brake band.
(2) Remove the special washer (b) and washer (c), and then remove the supply soft brake reel base.

(Note)
Be careful not to lose the height adjustment spacer.
(3) Wipe off the old oil from the reel shaft by using a cloth moistened with alcohol, and then apply a small amount of new oil.
(4) If a new supply reel base is being installed, adjust the reel base height.

2-4-4. TAKE-UP REEL BASE (See Fig. 2-4-3.)

(1) Remove the special washer (d) and washer (e), and then remove the take-up reel base.

(Note)
Be careful not to lose the height adjustment spacer.
(2) Wipe off the old oil from the reel shaft by using a cloth moistened with alcohol, and then apply a small amount of new oil.
(3) If a new take-up reel base is being installed, adjust the reel base height.

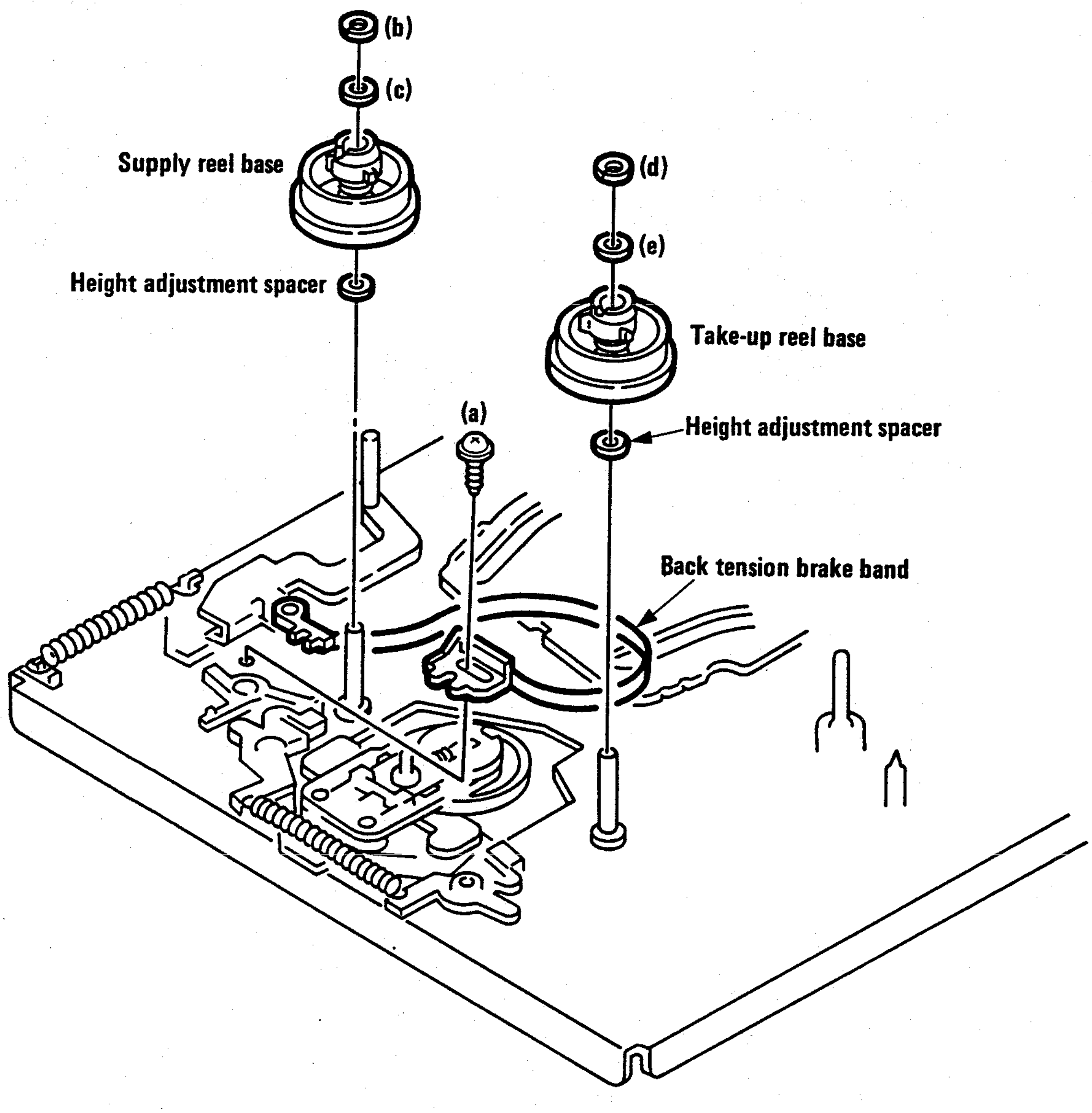
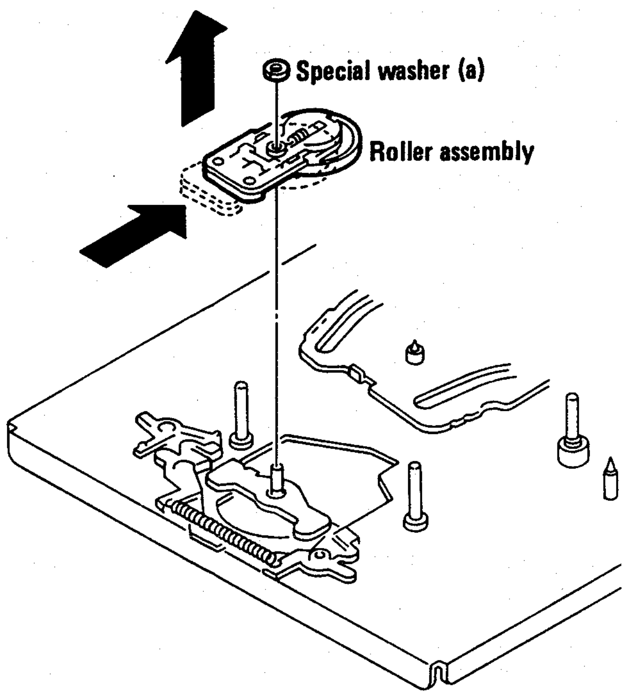

(b)
(c)
Supply reel base
Height adjustment spacer
(d)
(e)
Take-up reel base
(a)
Height adjustment spacer
Back tension brake band

Fig. 2-4-3

2-4-5. ROLLER ASSEMBLY (See Fig. 2-4-4.)

(1) Remove the special washer (a), and then remove the roller assembly.

(2) Install the new roller assembly by using the reverse order of the removal procedure.



Special washer (a)
Roller assembly

Fig. 2-4-4

2-4-6. CAPSTAN MOTOR (See Fig. 2-4-5.)

(1) Disconnect the capstan motor connector (a).

(Note)

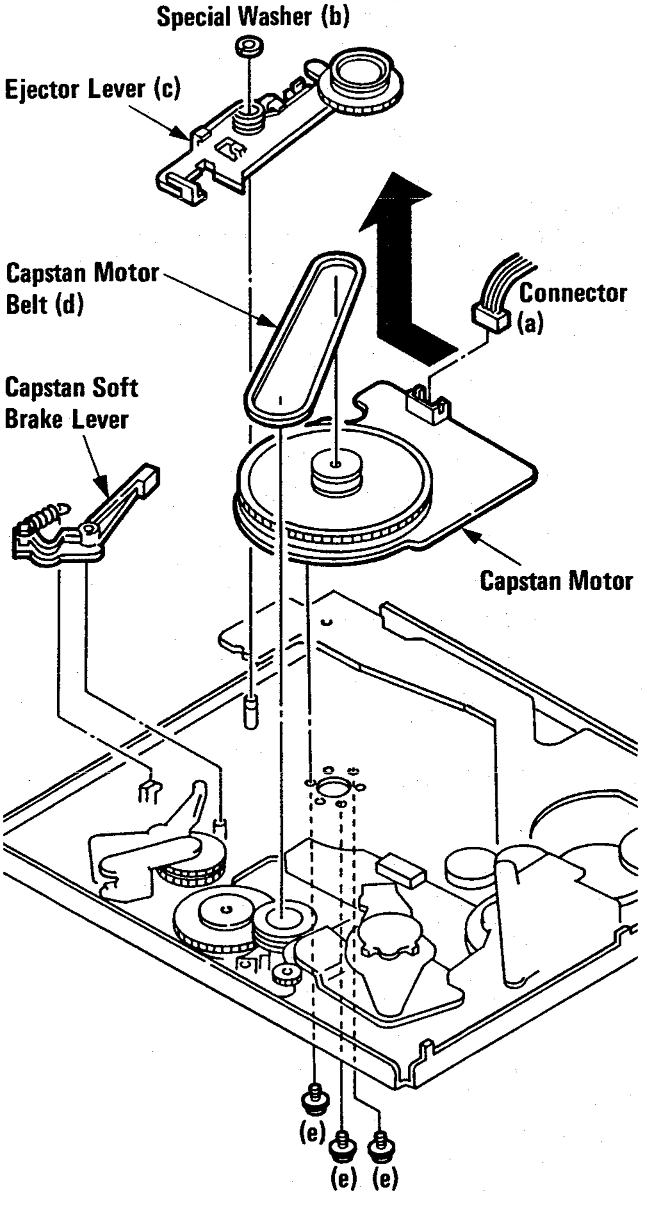
- Be sure that the power is off [the power switch in the OFF position] when connecting or disconnecting the connector.
- Set the mode detection switch to STOP mode. (Refer to ITEM 2-6-4) GEAR, MODE DETECTION SWITCH POSITION part).

(2) Remove the special washer (b), and then remove the eject lever (c).

(3) Remove the capstan motor belt (d).

(4) Remove the screws (e) securing the capstan motor, and then remove the motor.

(5) Install the new capstan motor by using the reverse order of the removal procedure.

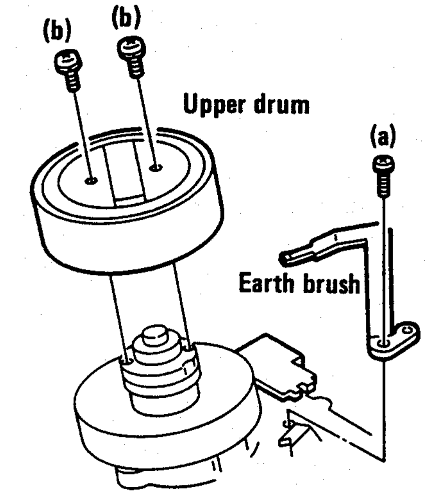


Special Washer (b)
Ejector Lever (c)
Capstan Motor Belt (d)
Connector (a)
Capstan Soft Brake Lever
Capstan Motor
(e)
(e)
(e)

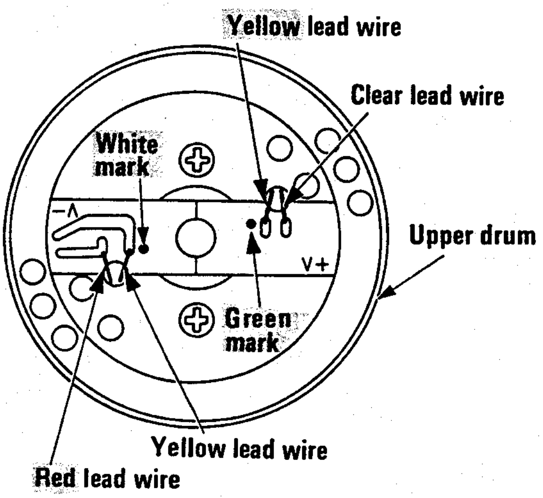
Fig. 2-4-5

2-4-7. UPPER DRUM (See Fig. 2-4-6.)

(1) Remove the screw (a), and then remove the earth brush.
(2) Remove the screws (b) which hold the upper drum, and then remove the soldered lead wire.

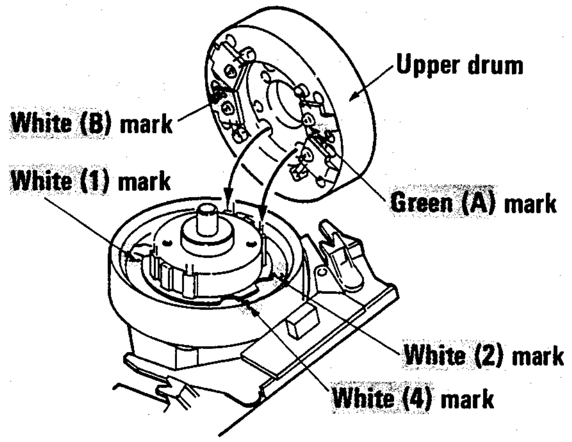

(b)
(b)
Upper drum
(a)
Earth brush

- **2-HEAD MODEL VIDEO HEAD LEAD WIRE POSITION (Top view) (MODEL: VHR-3300 (3200) SERIES)**

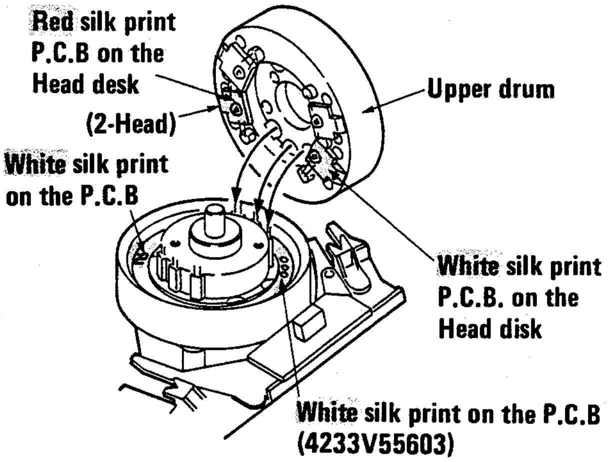

Yellow lead wire
Clear lead wire
White mark
Upper drum
Green mark
Yellow lead wire
Red lead wire
V+

(Note)
Be careful to the solder the lead wire at the correct position.
(3) Check the tape path.

- **2-HEAD Hi-Fi MODEL UPPER DRUM POSITION (MODEL: VHR-3700 SERIES)**


Upper drum
White (B) mark
White (1) mark
Green (A) mark
White (2) mark
White (4) mark

- **3-HEAD Hi-Fi MODEL UPPER DRUM POSITION (MODEL: VHR-3800 SERIES)**


Red silk print P.C.B on the Head desk
(2-Head)
Upper drum
White silk print on the P.C.B
White silk print P.C.B. on the Head disk
White silk print on the P.C.B (4233V55603)

- **3-HEAD MODEL LEAD WIRE POSITION (MODEL: VHR-3500 SERIES)**

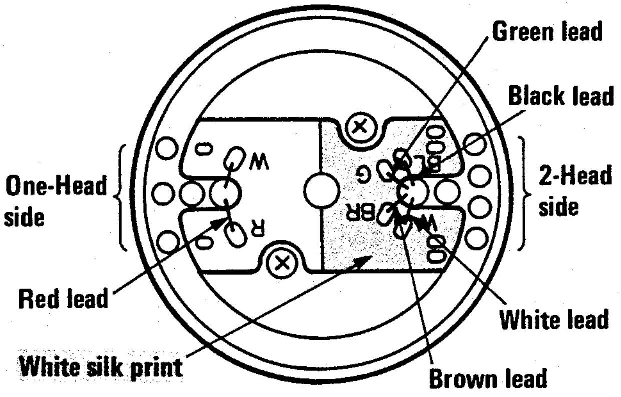

Green lead
Black lead
One-Head side
2-Head side
W
R
G
BL
BR
W
Red lead
White lead
White silk print
Brown lead

Fig. 2-4-6

2-4-8. ROTOR AND DRUM MOTOR (See Fig. 2-4-7.)

(1) Remove the screws (a) securing the rotor, and then remove the rotor.
(2) Remove the screws (b) securing the drum motor, and then remove the drum motor.
(3) Install the new drum motor by using the reverse order of the removel procedure.

CAUTION: Make sure of positioning the Smallhole of rotor and the Hole of rotor-disc.

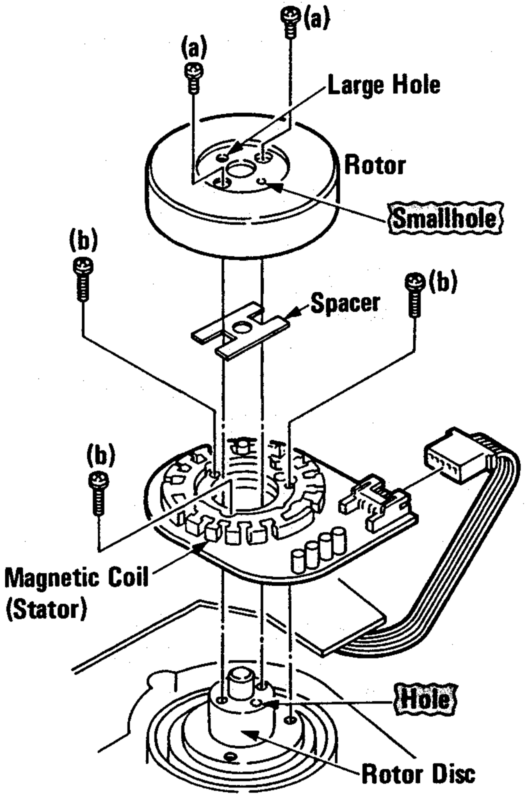

(a)
(a)
Large Hole
Rotor
Smallhole
(b)
Spacer
(b)
(b)
Magnetic Coil
(Stator)
Hole
Rotor Disc

Fig. 2-4-7

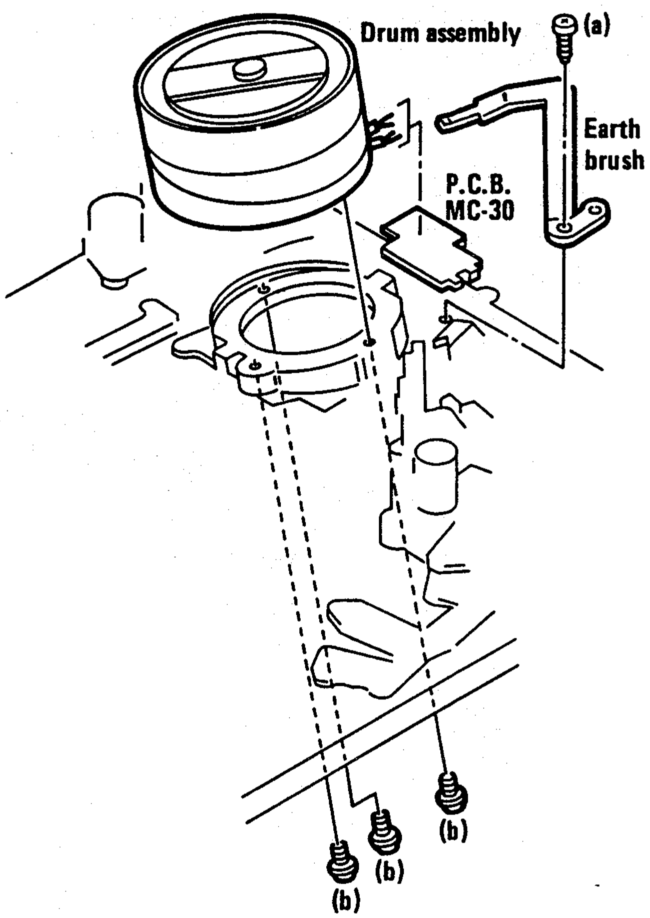
(Note)

- Use the torque gauge screwdriver (VHJ-0014) for installation of the drum motor and rotor.

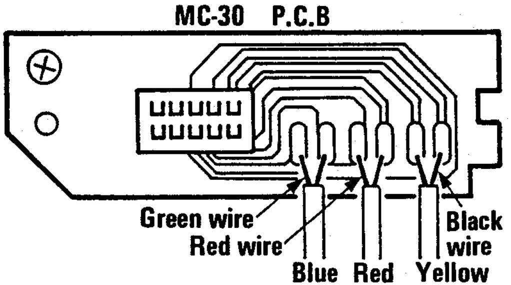
The tightening torque of the drum motor and rotor are 3 kg-cm. (When installing, first tighten to a temporary tighteness and then tighten to the specified torque.)

2-4-9. DRUM ASSEMBLY (See Fig. 2-4-8.)

(1) Remove the screw (a), and then remove the earth brush.
(2) Remove the soldered lead wires of MC-30.
(3) Remove the screws (b), and then remove the drum assembly.
(Be careful not contact the video heads)
(4) Install the new drum assembly by using the reverse order of the removal procedures.

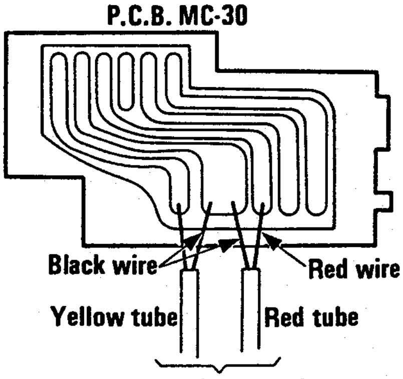

Drum assembly
(a)
Earth
brush
P.C.B.
MC-30
(b)
(b)
(b)

3-Head model under drum rotary trans.
lead wires install position


MC-30 P.C.B
Green wire
Red wire
Black
wire
Blue
Red
Yellow

From under drun rotally trans.

2-Head model under drum rotary trans.
Lead wires install position

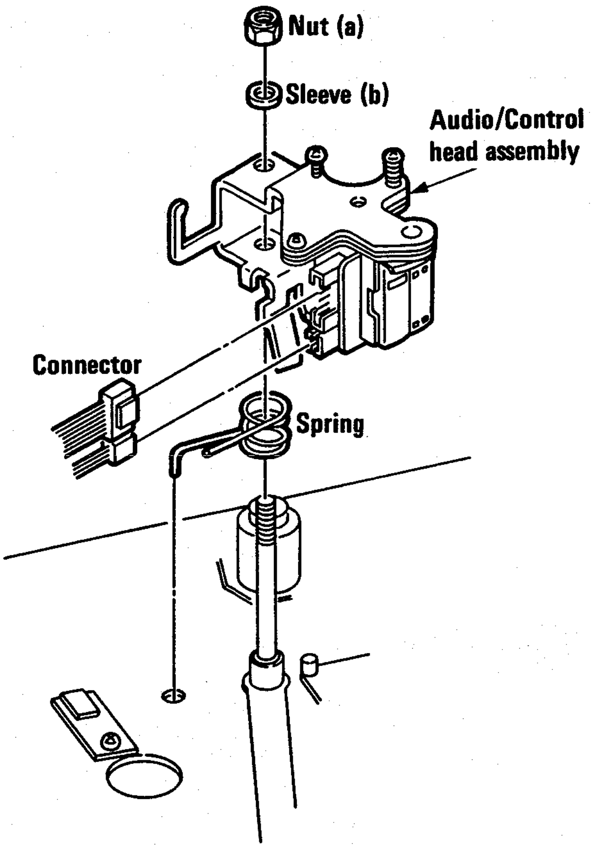

P.C.B. MC-30
Black wire
Red wire
Yellow tube
Red tube

From under drum rotaly trans.

Fig. 2-4-8

2-4-10. AUDIO/CONTROL HEAD ASSEMBLY (See Fig. 2-4-9.)

(1) Remove the nut (a) and sleeve (b) which hold the audio/control head assembly, and then disconnect the two connectors.
(2) Install the new audio/control head assembly.
(3) Adjust the tape path.

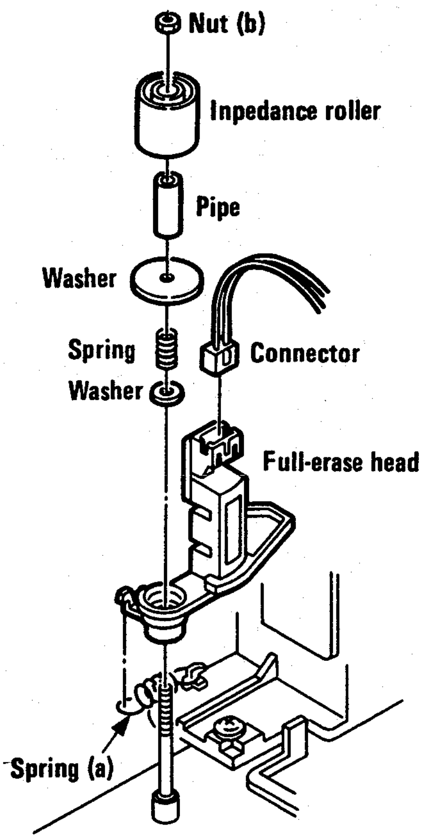


Nut (a)
Sleeve (b)
Audio/Control head assembly
Connector
Spring

Fig. 2-4-9

2-4-11. FULL-ERASE HEAD ASSEMBLY (See Fig. 2-4-10.)

(1) Remove the spring (a) and nut (b), and then remove the inpedance roller.
(2) Disconnect the 2 pin connector.
(3) Remove the full-erase head assembly.
(4) Install the new full-erase head assembly.



Nut (b)
Inpedance roller
Pipe
Washer
Spring
Connector
Washer
Full-erase head
Spring (a)

Fig. 2-4-10

2-5. PREPARATIONS FOR ADJUSTMENT (See Fig. 2-5-1.)

How to operate the mechanism without a tape cassette

1. Cover the FWD sensor and REW sensor using a piece of black vinyle tape or similar material so that light cannot be received.
2. Insert the tape cassette by hand, and then pull it out when the cassette tray begins to move.
3. In this condition, each mode can be operated.

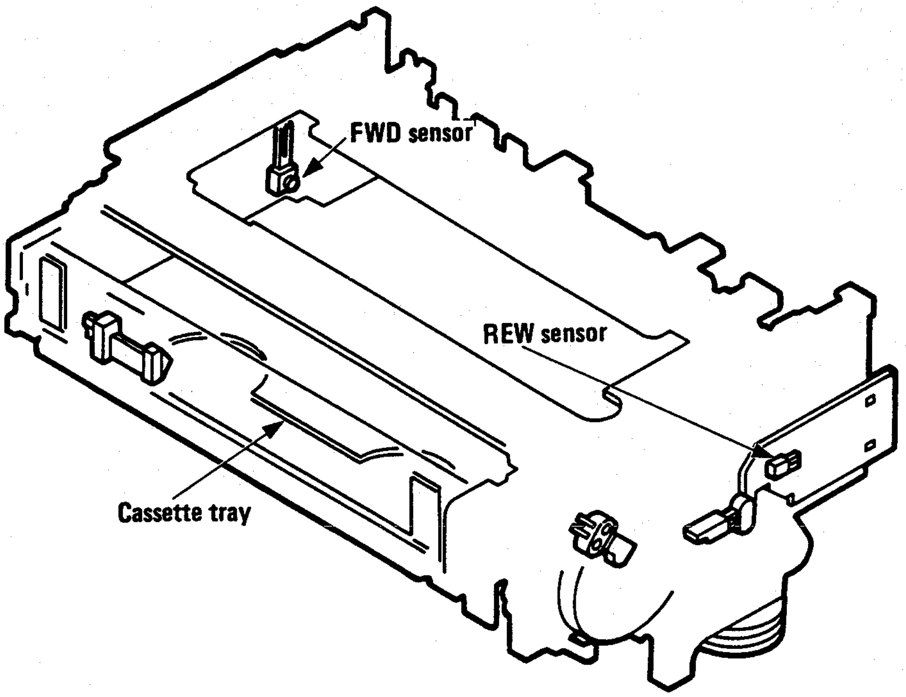


Fig. 2-5-1

2-6. ADJUSTMENTS

2-6-1. REEL BASE HEIGHT (See Fig. 2-6-1.)

If the supply reel base or the take-up reel base is replaced, it will be necessary to adjust the reel base height.

(1) Attach the cassette stand plate gauge (VHJ-0001) and slide the gauge in the direction of the arrows.

(2) Confirm that, when the gauge stops, the reel bases are not in contact with surface A of the plate and are in contact with surface B.

(3) If the reel base is in contact with surface A, remove a spacer and check again.

(4) If the reel base is not in contact with surface B, add a spacer and check again.

(Note)

- Adjust the reel base height by adding or changing spacers (0.13t, 0.2t, 0.25t and 0.5t) as appropriate so that the height meets the specifications. Use the same method for both the take-up reel base and the supply reel base. (The 0.5t washer is included as the standard washer.)
- If the height of the reel base is not within the specified value, the tape edge might be damaged as a result, or the tape path adjustment might not be possible to make.

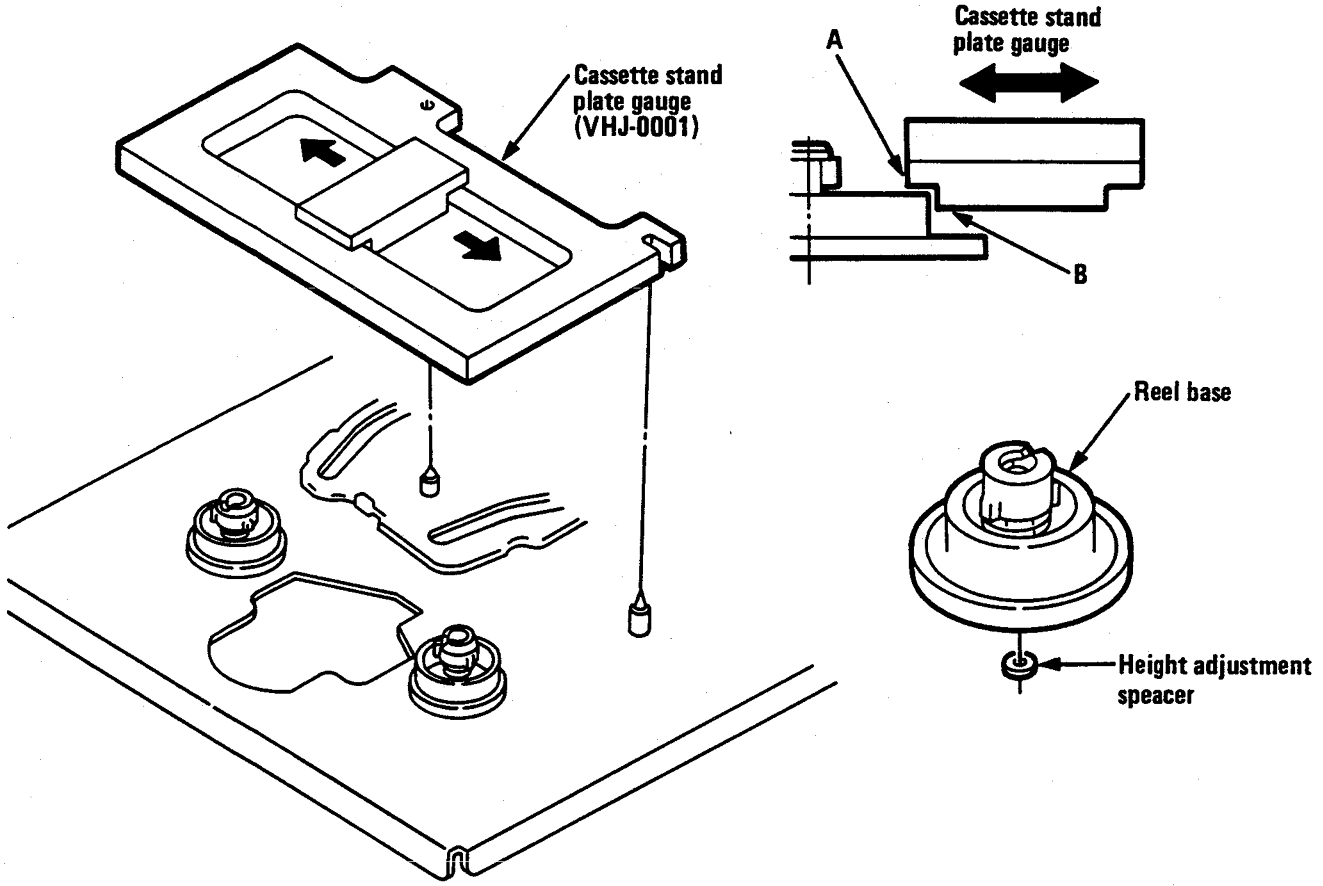

Cassette stand plate gauge (VHJ-0001)
A
Cassette stand plate gauge
B
Reel base
Height adjustment speacer

Fig. 2-6-1

2-6-2. BACK-TENSION LEVER POSITIONING (See Fig. 2-6-2.)

(1) Begin the playback mode without inserting a tape cassette. After loading finishes, disconnect the power cord from the power outlet.

(2) Attach the back-tension lever position-confirmation gauge (VHJ-0030).

(3) Check to be sure that the back-tension lever is within the marking line on the back-tension lever position-confirmation gauge.

(4) If is not, adjust the screw (a) so that it is with in the line.

(5) Remove the back-tension lever position-confirmation gauge.

(Note)

- Handle the back-tension lever position-confirmation gauge carefully when attaching and removing it, so as not to damage the video heads.
- If not at the specified position and not within the specified value, the tape path might become unstable.

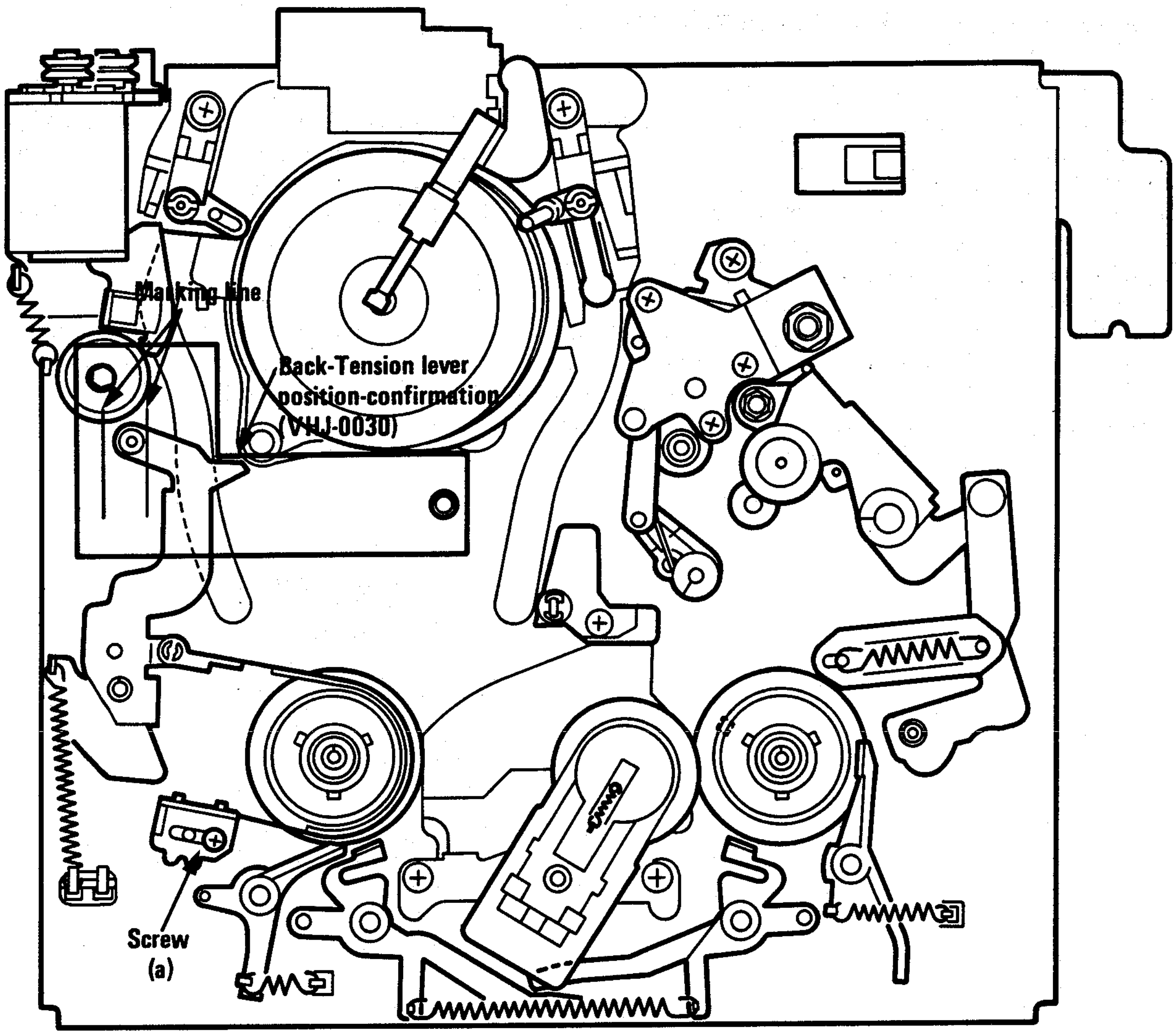

Marking line
Back-Tension lever position-confirmation (VHJ-0030)
Screw (a)

Fig. 2-6-2 (Top View)

2-6-3. BACK-TENSION TORQUE (See Fig. 2-6-3.)

(1) Load the cassette torque meter (VHJ-0016) and set to the PLAY mode.

(2) Check whether or not the back-tension torque value is within 37 ~ 67g-cm.

(3) If not, the bracket position should be adjusted.

(A) Press the EJECT button and eject the cassette torque meter.

(B) Change the position of the spring coil.

(4) Load the cassette torque meter once again and check the back-tension torque value.

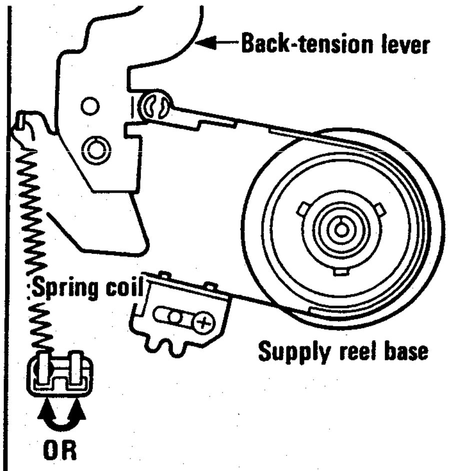

Back-tension lever
Spring coil
Supply reel base
OR

Fig. 2-6-3

2-6-4. GEAR & MODE DETECTION SWITCH POSITIONING (See Fig. 2-6-4.)

If the gear, cam and mode-detection switch, etc. is removed or replaced, it will be necessary to make each of the position alignments.

Therefore, before removing these parts, be sure to first set the unit to the STOP mode, and then remove the parts. The gear and mode-detection switch position will be the EJECT mode (with the cassette out).

(1) Move from the EJECT mode to the STOP mode by sliding. To do this, rotate counterclockwise (as viewed from the bottom side of the worm gear assembly). The STOP mode is where the notch position of the mode-detection switch and the position of the hole mark of cam gear II are at ⓐ and ⓑ in the figure.

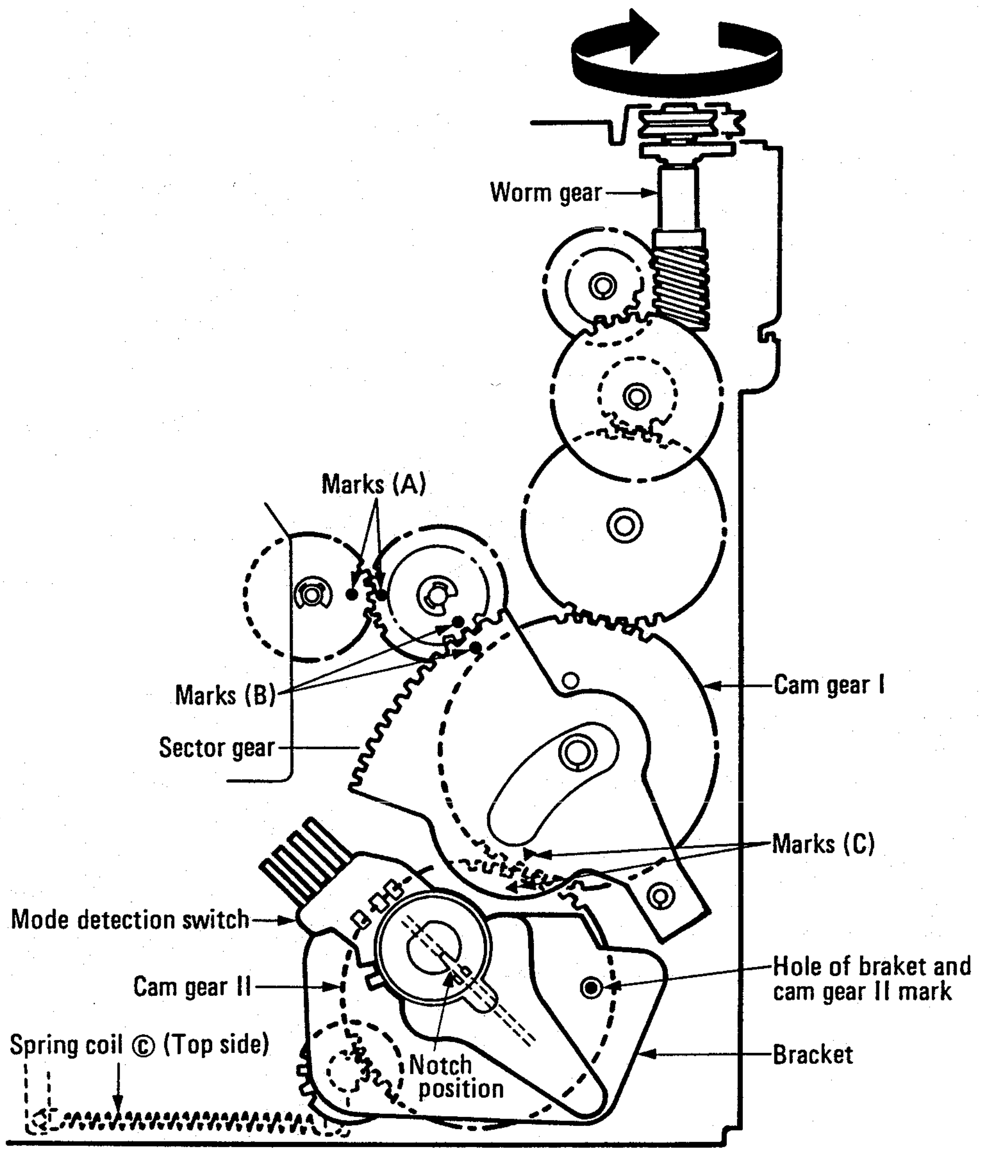
(Note)

- If camgear II is removed, be sure, before removing it, to first remove spring coil ⓒ for both of the main brakes (at the mechanism top side) while in the STOP mode.

(2) The installation order (A), (B) and (C) is to be followed for installation, being sure to follow points ⓑ and ⓐ for each.

(Note)

- If the mode position of the mode-detection switch or the mark position between each gear is not correct, an operation malfunction will result.


Worm gear
Marks (A)
Marks (B)
Sector gear
Cam gear I
Marks (C)
Mode detection switch
Cam gear II
Hole of braket and cam gear II mark
Spring coil ⓒ (Top side)
Bracket
Notch position

(Bottom View)

Fig. 2-6-4

2-6-5. CHECKING THE TORQUE (See Fig. 2-6-5.)

Using the torque meter (VHJ-0004), measure the torque in each mode.

Mode	Torque
PLAY	70 ~ 130g · cm
F-SEARCH	80 ~ 160g · cm
R-SEARCH	120 ~ 220g · cm
FWD/REW	700g · cm or more
UNLOADING	70 ~ 130g · cm

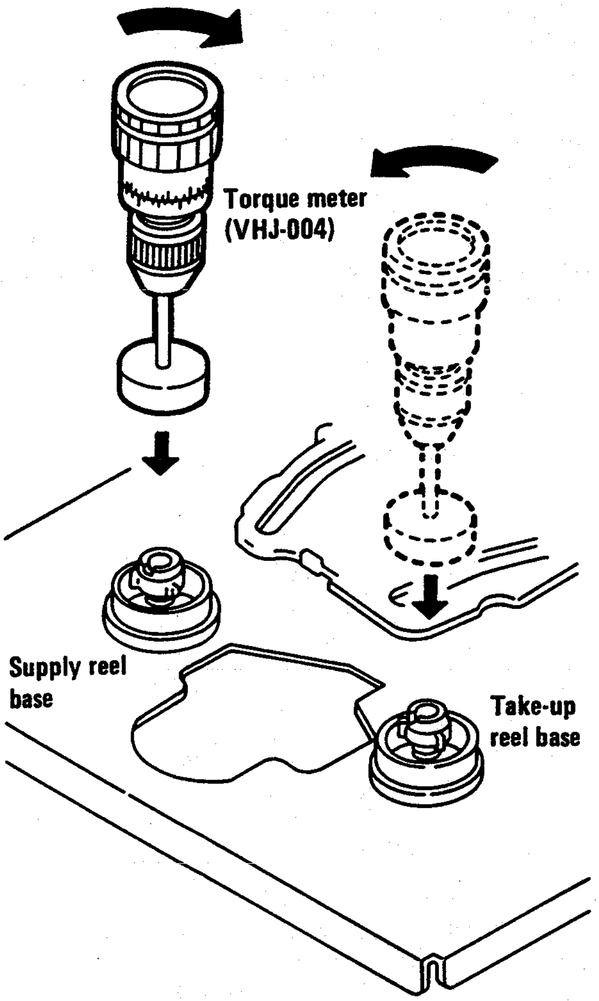


Fig. 2-6-5

(Note)

(1) The unloading take-up torque indicates the torque when unloading starts.

(2) For play, F-search and R-search, measure while turning the torque meter at a rate of about once in 3 seconds.
For FWD, REW and unloading, measure while the torque meter is in the locked-torque condition.

(3) When the reel base is locked, the system is disabled. To change to another mode, press the stop button to change to the reset mode.

- Make the following checks if the torque value for each mode si not within the specified value.

(4) Check the capstan motor and main slip gear's pully groove for contamination (oil, etc.).

(5) Check the capstan belt for deterioration.

(6) Check the felt within the main slip gear, play gear and review gear for deterioration, etc.
If a problem is found for (5) or (6), the part should be replaced.

2-7. CHECKING AND ADJUSTING THE TAPE-TRANSPORT SYSTEM (See Fig. 2-7-1, Fig. 2-7-2.)

The tape-transport system has already been precisely adjusted by the manufacturer, and therefore no adjustment should normally become necessary.

Such checking and adjustment may however become necessary when, after long use, a component part of the tape-transport system is replaced, etc.

(1) Cleaning the tape-transport system

Tape residue, dust and dirt may accumulate in the tape-transport system after long use. Check the tape-transport system after cleaning the tape contact surfaces.

(2) Test points when adjusting tape transport

Make the tape transport adjustments while monitoring the envelope (RF output waveform) and the audio output waveform.

- When monitoring the envelope (RF output waveform), connect the oscilloscope to CN1006 (on the VD-1 board) as

Pin (1): GND
Pin (2): envelope
Pin (3); RF switching pulse (for trigger)

- When monitoring the audio output waveform, connect the oscilloscope to the audio output terminal on the VD-1 board (rear panel terminal).

(3) Checking the tape-transport system

Check the following points by using the two end parts of a T120 tape.

- Check to be sure that, during playback, the tape is not out of position upward or downward (from the lead) at the drum entrance and drum exit. If there is any positional deviation, adjust the height of the entrance and/or exit guide.
- Check to be sure that, during playback, there are no creases or wrinkles of the tape at the entrance guide, exit guide, etc. If there appears to be an irregular condition, adjust the height of the entrance guide, exit guide, etc.

Using the wound part of a T120 tape, record and playback in the EP mode and check the following points.

- Check to be sure that, during playback and reverse search, there are no creases or wrinkles at each guide. If there appears to be an irregular condition, make a minor adjustment of the height at the entrance guide, exit guide, etc.
- Check the start of the picture on the TV screen, and the audio, when there is mode switching such as from rewind to play, reverse search to play, etc. If there appears to be an irregular condition, adjust the tape-transport system.

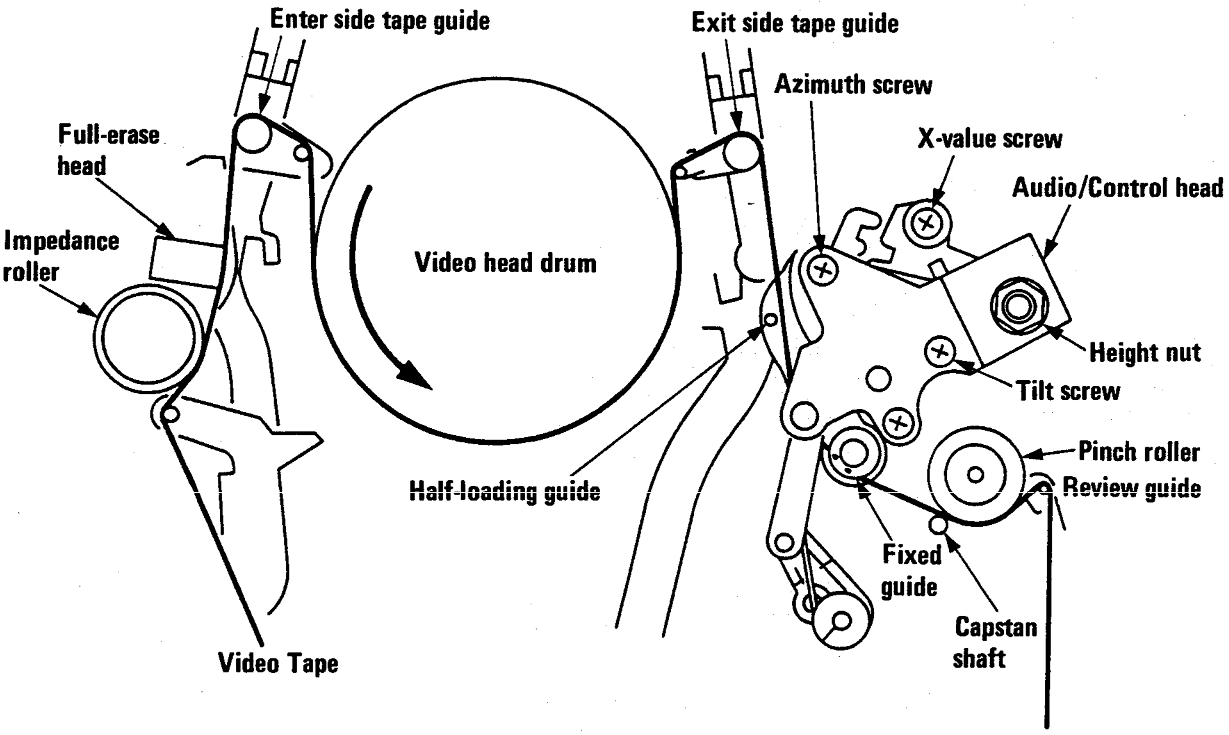
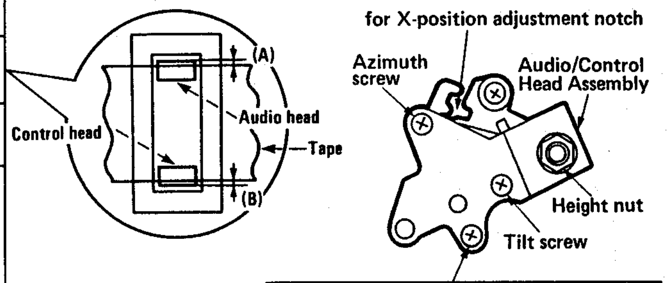

Enter side tape guide
Exit side tape guide
Azimuth screw
X-value screw
Audio/Control head
Full-erase head
Impedance roller
Video head drum
Height nut
Tilt screw
Pinch roller
Review guide
Half-loading guide
Fixed guide
Capstan shaft
Video Tape

Fig. 2-7-1

TAPE-TRANSPORT ADJUSTMENT

	Adjustment Item	Adjustment Point	Tape	Adjustment method	Notes and check points
1	ENTRANCE SIDE, EXIT SIDE TAPE GUIDE	ENTRANCE SIDE, EXIT SIDE TAPE GUIDE	VHJ-0009	(1) Turn the tracking control to obtain the maximum envelope. (2) Tighten the entrance and exit guides after alternately loosening them, and adjust to the point where the envelope is flat.	(1) Monitor the envelope at the RF switching pulse LOW side, (Monitor at the + side of the oscilloscope trigger slope.) (2) Be careful not to tighten the entrance and exit guides excessively. (They should be tightened only to the extent that the front half and back half are not down.) (3) The height of the impedance roller is not to be adjusted. (Only if there is fluctuation of the envelope front half, then an adjustment can be made (within a range of 90°) in the direction in which the tape is lifted.
2	FIXED TAPE GUIDE	FIXED TAPE GUIDE	VHJ-0009	(1) In the playback mode, free the guide and align the flange below the guide with the tape. (Adjust so that the tape is not pushed upward.)	(1) If the tape is creased at the lower flange during R-search, lowr the fixed guide to the extent that there is no creasing.
3	AUDIO/CONTROL HEAD	AZIMUTH SCREW	VHJ-0009	(1) Adjust (by the azimuth screw) the audio level to maximum.	 (A) Audio head Control head Tape (B) for X-position adjustment notch Azimuth screw Audio/Control Head Assembly Height nut Tilt screw Note: This screw is set to the height adjustment standard for audio/control head, and therefore should not be touched.
		HEIGHT SCREW		(2) Visually adjust the head height. [Adjust so that the upper part (A) of the audio head and the lower part (B) of the control head can be seen equally.	
		TILT SCREW		(3) If the audio level fluctuates, tighten the tilt screw within a range of 90°, and again make the adjustments in items (1) and (2).	
		X-VALUE SCREW		(4) Set the tracking VR to its center position and adjust so that the envelope is maximzed. Method: Loosen the X-position adjustment screw by about 45°, then insert a flat-tip (–) screwdriver in the notch and adjust so as to obtain the maximum envelope. After completing the adjustment, firmly tighten the X-position adjustment screw.	
4	RECORDING/ PLAYBACK CHECK	ENTRANCE SIDE, EXIT SIDE TAPE GUIDE	(T120 TAPE RECORDING/ PLAYBACK)	———	(1) Check the envelope (front half down 50% or less) during playback. (2) Check for tape creasing at each guide during playback and R-search. (Be careful of tape creasing at the fixed guide during R-search.)

- **TAPE TRAVEL CHECK DIAGRAM**

(Note) ⤴ ⤴ marks: Tape regulation point

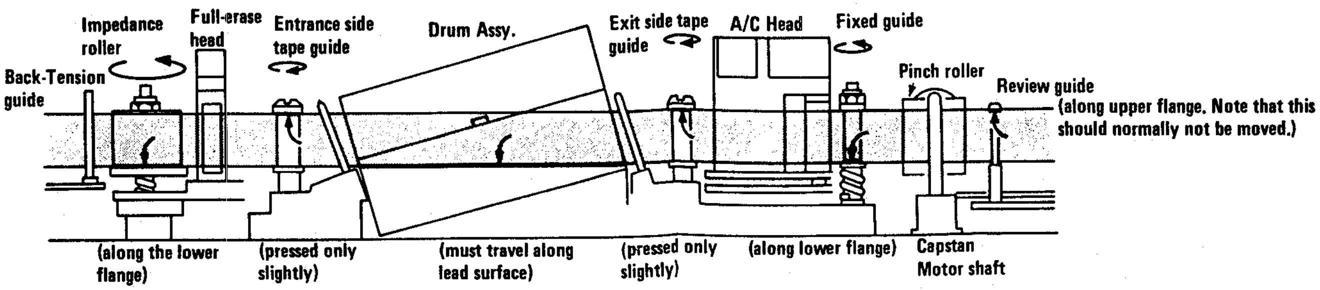

Impedance roller
Full-erase head
Entrance side tape guide
Drum Assy.
Exit side tape guide
A/C Head
Fixed guide
Back-Tension guide
Pinch roller
Review guide
(along upper flange. Note that this should normally not be moved.)
(along the lower flange)
(pressed only slightly)
(must travel along lead surface)
(pressed only slightly)
(along lower flange)
Capstan Motor shaft

Fig. 2-7-2